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CLINICS.

Clinical Lectures.

ON THE TREATMENT OF TYPHOID FEVER.

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MR. PRESIDENT AND GENTLEMEN: In discussing the subject of the treatment of typhoid fever, I can lay no claim to your attention from novelty of views or of practice, but only from the intrinsic importance of the subject. It is a well-known fact that in the rural districts of our State, epidemics of this disease are so rare of late years that one is almost justified in the assertion that epidemic typhoid fever in this locality is extinct. Twenty years ago the disease prevailed in epidemic form throughout the villages and farming districts of this State almost every season with frightful severity. Now we rarely encounter typhoid fever except in isolated cases in which the disease was contracted elsewhere and brought home in the formative stage. It may be assumed upon the highest authority that typhoid fever is never of spontaneous origin, that the disease is produced by a specific poison, and that this poison always comes from one suffering with this specific fever. It is a well-known fact that the most common medium of communication and dissemination of the disease is drinking water. Formerly wells with free sub-soil communication were the sources of drinking water. Now cisterns are the almost universal sources of water supply in Kentucky. The geological formation is admirably adapted to the construction of cisterns, and the cemented cisterns of this State are practically sealed bottles into which water pours through filters. That to this improved supply of drinking water, together with the care given by modern physicians to the disposal and disinfection of the dejections of typhoid patients, is due the immunity in this region from epidemics of typhoid fever, there seems to be no reasonable doubt.

Nevertheless there is scarcely a year that passes that every general practitioner among us is not called upon to treat several cases of typhoid fever. The natural history is of such long duration, and the balance between life and death so evenly poised, that the management of this malady must at all times command most careful and thoughtful attention.

The unsettled state of professional opinion as to the management of the disease is indicated by the diversity of views and practice among those best qualified by clinical experience to judge of the efficacy of the several plans of treatment. And it must be observed that the two methods of treatment most prominently advocated at the present time are in their essentials and details so diametrically opposed to each other, that one is compelled to decide between the two, and adopt a method of practice either somewhat heroic or altogether expectant. The care of several cases of typhoid during the past summer and autumn has directed my attention particularly to the consideration of the methods of treatment now before the profession, and has for the time at least invested the subject with peculiar interest.

The publication in this country of Niemeyer's work on the "Practice of Medicine," and more recently of Ziemssen's "Cyclopædia," has brought authoritatively to the attention of American physicians the method of treatment known among us as the German method. This treatment is based upon the existence of specific remedies for the disease, the remedies to which such power is attributed being calomel and iodine. In the early stage of the disease, when in the majority of cases treatment is instituted, calomel is according to this method to be administered in doses of half a scruple, and the remedy repeated in similar doses four times in twenty-four hours. Iodine is also to be given in the form of Lugol's solution or iodide of potassium, so that from a scruple to a drachm of the latter is given in twenty-four hours. According to this method calomel is administered daily, or on alternate days during the first week; and the iodine is continued over two weeks, or until the beginning of convalescence. Beyond the use of these remedies the main feature of this method of treatment is depressing the temperature by active measures. It is assumed that the greatest danger to the patient lies in the injury done the tissues by the fever heat. It is claimed that the danger is in the parenchymatous degeneration which results from a high and prolonged elevation of temperature. The remedies resorted to for reducing temperature in this disease are hydrotherapy, quinia, and digitalis. The cold bath alone may be applied and repeated until the temperature is reduced, or quinia may be administered in scruple doses every four hours until this result is obtained, or the cold bath, quinia and digitalis, all in conjunction may be resorted to for the desired result. This so-called specific method is advocated in one of the most recent and best of our American books on practical medicine,[1] while the antipyretic measures mentioned are advocated in whole or in part by various authorities in Great Britain and America. The Croonian Lectures for 1880[2] are essentially devoted to the advocacy of treating this disease by the fearless exhibition of the antipyretic method particularly as to cold baths.

There are two methods of estimating the efficacy of various plans of treating a given disease, consisting of the analysis of results from the numerical record of cases; and the testimony of individuals based on pathological study together with clinical experience. In the former, the statistical method, the circumstances of the patient, accuracy in diagnosis, and skill in treatment, are such variable elements as to greatly impair the reliability of the deductions made. A careful investigation of the etiology

[1] The Practice of Medicine, by Roberts Bartholow, M.A., M.D., p. 701.
[2] On Some Points in the Pathology and Treatment of Typhoid Fever, by Wm. Cayley, M.D., F.R.C.P. London, 1880.

and pathology of the disease, aided by clinical observation, must at last be the guide to individual views and practice.

Until the mechanism of fever is accurately determined, and it is demonstrated that elevation of temperature produces effects alike or uniform in character, the antipyretic treatment of fevers is without a secure foundation in theory, and until the results of this method are more eminently superior it will not be generally adopted in practice. At a recent meeting of the Metropolitan Counties Branch of the British Medical Association, the utility of cold baths in treating typhoid fever was quite thoroughly discussed. It was demonstrated that this method of treatment is not in general favour, and that it is by no means an established therapeutic measure in England. In America it has not met with favour, and occupies a very questionable place in practical therapeutics. Indeed, the more conservative methods of treating the disease are gaining in favour and confidence both in this country and Great Britain.

There are certain established facts in the etiology and pathology of typhoid fever which furnish the only trustworthy guides to the management of the disease. The most important of these are that the disease results from the introduction into the system of a specific poison; that when the poison is once lodged in the system all the stages of the disease are inevitable and must be encountered before the patient can be well; that the natural history of the disease extends over a period of twenty-eight or thirty days and cannot be abbreviated; and that there are no known drugs or remedial measures by which the disease can be aborted, cut short, or cured. These facts being firmly established, that treatment is the best which looks to conserving the patient's strength, avoiding special complications and dangers, and keeping the patient alive until convalescence is reached.

At the onset of an attack of typhoid fever the patient must be protected from his own imprudence. He will almost invariably think that he is suffering from a cold or disordered digestion (biliousness), and will endeavour to throw off the headache and malaise by purgative medicines and exercise. As soon as the diagnosis is made, and in this the thermometer will furnish the best aid, the patient should be put to bed and given attention at once. The management of the case from this time may be considered under the following heads: (1) The Surroundings of the Patient; (2) Diet; (3) Medicines; (4) The Use of Stimulants; (5) The Use of Antipyretics. One who has seen much of typhoid fever cannot but feel the importance of minute details in its management. The course over which the patient must run presents so many dangers, and, at best, the balance is so evenly struck between a favourable and fatal issue, that an apparently trivial factor may determine the result. Hence the hygienic surroundings and psychological status of the patient become matters of serious import.

In the management of a case of typhoid fever the arrangement of the sick-room and surroundings of the patient are matters of the greatest importance, and must receive the personal attention of the physician. The room should be well ventilated, the light subdued, visitors excluded, and quietude maintained. During the first week of the disease the febrile action is high, and frontal headache and sleeplessness are the prominent symptoms. All causes of irritation must be obviated, and rest must be encouraged in every possible way. The surface of the body should be frequently sponged, and the bed and body linen changed every day. It is an excellent plan to also change the bed of the patient. During the hot

weather of last August I managed to restoration a case of the disease of more than average severity, in which the patient frequently occupied three beds in the course of twenty-four hours; the bed being rolled to the cool portion of a large hall in the morning, changing to the opposite side in the afternoon, and the patient changed to a fresh cool bed at convenient intervals. The services of a properly qualified nurse are of inestimable importance in the management of this disease.

The diet of typhoid patients requires the closest attention, and demands the utmost care and judgment. The specific lesions of the disease being in the alimentary canal, errors in diet produce injurious results which are immediate. The Peyerian patches and the solitary glands in the lower part of the small intestine are always the seat of important pathological changes in typhoid fever. During the first week of the disease the mucous membrane in the vicinity of the ileo-cæcal valve and surrounding these glands is hyperæmic and swollen. The glands become more elevated, and their surface assumes a dark-reddish colour; when in the second week by active cell development and multiplication the agminated and solitary glands are swollen, and the adjoining mucous membrane infiltrated with cells. By the end of the second week the ulcerative process is well advanced, and the typhoid ulcer is formed. Usually the sloughing and removal of the necrotic tissue take place during the third week of the disease. The loss of substance may extend to the deeper layer of the mucous membrane, or it may involve the muscular coat to a greater or less extent, and may extend to perforation of the intestinal wall. During the fourth week granulation of the ulcerated surfaces begins, and, under favourable circumstances, this process advances to cicatrization. With a knowledge of these lesions before us, it is evident that the food should be easy of digestion and unirritating to the bowel. The enfeeblement of the digestive and assimilative powers resulting from these glandular changes, renders the digestion of solid food impossible, while the arrest of the salivary, and probably the pancreatic, secretion which obtains, likewise excludes starchy materials from the diet. The article of diet most efficient and capable in repairing the rapid waste of tissue which characterizes the disease is milk. We not only have in this article the essential elements of nutrition, but they are in the form and condition to be most readily and easily assimilated. If the stomach is irritable, lime-water may be added to the milk. Chicken broth, beef-tea, eggs, meat essences, and arrowroot are among the articles in common use, but all are inferior to milk. It is a common observation that persons who object to milk in health find it acceptable in this disease. Beef-tea and meat essences are not well tolerated by a healthy stomach, and hence are not suitable articles of diet for typhoid fever patients. Milk is *the article* of diet in typhoid fever, and should be given, according to the circumstances of the case, in small quantities every two, three, or four hours, so that three or four pints are taken in twenty-four hours. With the advent of convalescence comes an appetite which develops into a lust for food. Relapses at this stage of the disease are frequent, and it should be remembered that intestinal irritation, diarrhœa, hemorrhage, and perforation may be induced by imprudence in diet during convalescence. Cream and the white of eggs may be added to the milk at this time, and when convalescence is well advanced bread and milk, and soup may be taken, afterwards allowing meats. The patient should have cold water freely throughout the disease.

I know of no intelligent physician familiar with the pathological char-

acter and clinical history of typhoid fever, who believes that there is any specific remedy for this disease. Indeed it is generally conceded that we have no antidote for the typhoid poison; that there is no remedy which will cut short or abort its course; and all that lies within our power is to treat the symptoms as they arise. In cases of average severity it often happens that no medicines are required for their successful management. During the past summer I managed to recovery a case of typhoid, the patient being a robust young man, in which two small doses of chloral during the first week, and a bottle of white wine during convalescence, formed the sum total of all medicines used. Although we can neither neutralize nor eliminate the typhoid poison, yet we can in most cases control and relieve its most distressing and dangerous symptoms. Of these symptoms, diarrhœa is one of the most frequent, troublesome and dangerous. There are even now physicians eminent in the profession, who believe that the specific poison of the disease is eliminated by the bowels, and hence would encourage the diarrhœa by laxatives, and excite it by appropriate remedies if absent. As already described, the lesions of this disease impinge directly upon the alimentary canal, and the inflammation of the intestinal mucous membrane readily accounts for the intestinal catarrh. During the early period of the disease, the diarrhœa is not accompanied with much danger; but later in the disease, the increased peristalsis is an immediate danger to the diseased intestine. When brought on artificially, or when laxatives are used to relieve the constipation which is sometimes present, it is usually controlled only with great difficulty. For the control of this diarrhœa opium is the great remedy.

It must be borne in mind that our principal purpose in treating this condition, is to control the peristalsis of the bowel, rather than to check an increased discharge. Hence the indications for opium greatly exceed those for astringents.

As is well known, the large intestine may be torpid, and constipation result, while the small intestine is actively discharging its contents through the ileo-cæcal valve. This condition is indicated by constipation, with gurgling and griping over the small intestines. This state of the bowels, which apparently is the opposite one to diarrhœa, is best relieved by opium. It is a very rare combination of symptoms which will justify the use of cathartics in this disease. After the first week, should constipation demand attention, a simple enema will furnish the safest relief.

The use of antipyretic remedies—quinia and digitalis—has already been mentioned in detail. To these antipyretic remedies, the salicylate of soda has recently been added. Dr. Henry Tomkins, of Manchester, has recently set forth the value of this article as an antipyretic agent in typhoid fever; and since it is a powerful germicide, he gives it the first place in the list.[1] He administers the remedy in doses of fifteen or twenty grains every two hours, and usually finds six doses sufficient to bring the temperature within a safe range. Quinia in large and frequently repeated doses occupies a very favoured position as an antipyretic in the estimation of American physicians. The great objection to the use of these remedies is that the doses necessary for the antipyretic effect are so large as to be taken with extreme loathing on the part of the patient, and often materially interfere with nutrition by producing disturbances of the stomach.

Hemorrhage from the ulcerated surfaces of the bowel in typhoid fever

[1] *Vide* Lancet, March 12, 1881, p. 409.

is always an alarming symptom. It is by no means of infrequent occurrence. For the control of this condition opium is the one reliable remedy. The object is to place the bowel at rest, and it is doubtful if ergot, tannic acid, acetate of lead, or perchloride of iron, have the power to even give material aid to the control of this condition. If possible the exhibition of opium should be limited to enemata. Ice-cold drinks may be given freely and an ice-bag applied over the region of the ileum.

There is good authority for the statement that perforation of the bowel is always fatal. This accident is quickly followed by peritonitis, and the indications are to give opium freely and continuously.

Tympanites is often a very troublesome symptom in this disease. In all cases there is some distension by flatus, but frequently the accumulation of gas is so great as to interfere with the play of the diaphragm. This paralyzed condition of the bowel is the result of the intestinal ulceration. For the relief of this condition, turpentine has long been the standard remedy. It is administered internally, and applied to the abdomen in the form of stupes. To my mind the method of its action is not clear, and though familiar with its application for the relief of tympanites, I have never seen convincing evidence of its efficacy. Charcoal administered in small and frequently repeated doses is a more efficient remedy. Wishing, however, to do everything for the relief of a troublesome symptom, and knowing the confidence placed in turpentine for control of this condition by eminent practitioners, I would apply turpentine stupes over the abdomen when the tympanites becomes excessive and troublesome. The use of a cathartic at the beginning of the treatment, and the exhibition of calomel after the German method, beget intestinal commotion, increase the extent of the lesions, favour diarrhœa and intestinal and peritoneal complications. The indications for rest and preservation of the functions of the stomach should never be lost sight of throughout the management of the disease.

Respecting no single point is nicer discrimination required than the exhibition of alcohol in the treatment of this disease. Probably there is no one article capable of such great and good results when used in the proper time and emergency in typhoid fever, which has been so much abused. It must be remembered that the condition of a typhoid fever patient during the third and fourth week is very different from that of the earlier days of the disease. When about the beginning of the third week we find an irregular, rapid, and feeble pulse, accompanied with coolness of the surface and extremities, together with great exhaustion, we recognize this array of symptoms as indicating a failure of the power of the heart. This condition results not only from enfeebled muscular power, but also from altered and disturbed nerve influence. Together with these symptoms are often found a dry brownish tongue, tremor, and varying degrees of mental disturbance. For the relief of this condition alcohol is the remedy. Just at this stage is often the critical point in the disease, and the exhibition of alcohol may safely tide the patient over. When the use of stimulants is instituted the patient must be watched closely and examined every few hours. If the pulse becomes more distinct and regular; if the delirium is less active; the temperature lower; and the patient more in his right mind, we may be assured that the desired effect is being obtained. If, however, these symptoms are aggravated, the stimulants must be at once discontinued. When once instituted, stimulants must be given with regularity at fixed intervals. It must be kept in mind that stimulants may produce much

harm if given at the wrong period and in excessive quantity. It is rare that more than from four to eight ounces of whiskey or brandy are required in twenty-four hours. For the management of the greater number of cases of the disease, alcohol is not essentially required. The following words upon this point by Sir William Jenner, are full of wisdom: "For the last thirty years I have made it the rule of my practice in the treatment of typhoid fever, to abstain from giving alcohol if, in the case before me, I *doubted* the wisdom of giving it; when in doubt I do not give alcohol in typhoid fever, and when there is a question in my mind of a larger or smaller dose, I, as a rule, prescribe the smaller."[1]

Elevation of temperature is an essential part of the natural and uncomplicated history of typhoid fever. But when the temperature reaches 105° or 105.5°, and is disposed to advance or be continuous, we know that unless lowered the death of the patient will surely and speedily follow. Hence the theoretical ground for the antipyretic treatment of this disease has to this extent a foundation. I have already referred in detail to the antipyretics which are in use. There are many and serious obstacles to the general adoption of cold baths in practice. Indeed, in private practice, deprived of the conveniences and discipline of a hospital, together with the prejudice of the laity, it is almost impossible to carry out this treatment in all its details. But there are more serious obstacles to the general adoption of this method. There are strong indications that relapses are more frequent after this treatment, and that serious pulmonary lesions are caused by the baths. In the sulphate of quinia, exhibited in large doses, we have a reliable and efficient remedy for reducing temperature. This remedy, assisted by sponging the body with tepid water and the application of cold to the head and abdomen by means of the rubber tubing cap and ice-bags, will avert the danger of a high temperature when this is possible. Indeed, Liebermeister declares that, if compelled to choose between the use of cold water and quinia to reduce temperature in this disease, he would prefer the latter.[2]

I cannot better conclude the consideration of this important subject than to quote the expressions of two renowned and skilful practitioners. In a masterly address on the treatment of typhoid fever by Sir William Jenner, to which I have already referred, the following statement occurs:—

"While admitting without reserve that heroic measures, fearlessly but judiciously employed, will save life when less potent means are useless, the physician whose experience reaches over many years will, on looking back, discover that year by year he has seen fewer cases requiring heroic remedies, and more cases in which the unaided powers of nature alone suffice for effecting cure; that year by year he has learned to regard with greater diffidence his own powers, and to trust with greater confidence in those of nature."

The following is the language of Dr. John Syer Bristowe, the Senior Physician to St. Thomas's, London:—[3]

"Let me state briefly the treatment to which I should like to be subjected if ever, unfortunately, I should become affected with enteric fever: I should like to be placed in a cool well-ventilated room, and covered lightly with bed-clothes; to have a skilful and attentive nurse to look after me; to be fed solely with cold milk, unless vomiting should demand the addition to the milk of medicines calculated to allay vomiting. If diarrhœa became troublesome, or ever there was

[1] Medical News and Abstract, March, 1880, p. 156.
[2] Ziemssen's Cyclopædia, vol. i. p. 216.
[3] British Medical Journal, Nov. 27, 1880, p. 841.

much pain or tenderness in the cæcal region and in the bowels, I should like to be treated, not with laxatives, but with opium, given either by the mouth or by the rectum. If constipation were present, I should, except in the first week, like to have enemata only employed for its relief. In the event of intestinal hemorrhage coming on, I should like to have ice to suck or ice-cold fluids to drink, cold compresses to the belly, and cold injections into the bowel; and though I am sceptical as to their efficacy, I should still choose to have astringents, and more especially lead, given to me at short intervals. If perforation should take place, let me have large and repeated doses of opium. Stimulants I should prefer to be without early in the disease; later, however, and during convalescence, I should like to have them in moderation. As to cold baths, I would rather not have them; but I would, nevertheless, leave it to my physician to exercise his discretion in the matter. I would leave it also to him to decide, according to circumstances, whether alcohol should be administered to me in large quantities; I would prefer not to be treated at a temperance hospital."

ON A PUNCTURED WOUND OF THE SKULL.

A Clinical Lecture.

By J. W. HULKE, M.D.,
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GENTLEMEN: Trephining in wounds of the skull, formerly so frequent, has now become so infrequent that most of you during the whole three years of your studentship will probably not see it done more than once or twice, and possibly not at all. It happens, however, that there are now in the wards two patients whom I have recently trephined, and to the case of one of these I now ask your attention.

The record by my dresser, Mr. Ed. Davis, is in effect as follows:—

Late in the afternoon of January 7 last a little flaxen-haired girl was taken into Bird ward suffering from the effects of a wound of the head. The child was quite conscious. She was remarkably quick and intelligent for her age, and she answered readily and pertinently questions put to her. Her face, very pale, was distorted by frequent spasms, which chiefly affected the mouth and the eyelids; both sides of the face appeared to be equally convulsed.

In the middle of the right parietal region was a small festering scalp-wound, through which the House-Surgeon had just before detected with a probe that the underlying bone was irregular as if broken, and slightly displaced.

The account given by the child's mother (which we had afterwards reason to think false) was that eleven days previously she had fallen off a low stool and cut her head by striking it against a fender. This stunned her for a little while, but she soon came to, and when the bleeding, which was inconsiderable, had ceased, the mother covered the cut with a piece of sticking-plaster. For two days the hair about the cut was wet with a watery oozing, and as the child seemed less lively than usual, on the third morning she was brought to the hospital surgery, where the junior House-Surgeon saw her. He found the cut had festered, and on taking off the plaster a couple of drops of pus escaped. Thinking it merely a superficial cut, it did not appear to him necessary to have the child admitted. Light Goulard-water dressing was put on, and the mother was told to bring her daily, which she did. Nothing unusual was noticed until the eleventh day after the accident, when at 4 P. M. the child had a fit, in which her left side "worked"

more than her right; and when the fit was over she appeared to be in a deep sleep. In great alarm the mother ran with her to the hospital, and, the gravity of the case being apparent, she was instantly admitted. Her state at this time has just been told to you.

Throughout the evening her face was often convulsed, and at 11.30 P. M. a little difference of expression was first observed, suggestive of a slight degree of facial palsy. The child was also now noticed to take hold of anything offered to her exclusively with the right hand, and when trying to sit up in bed she supported herself with this arm only, suggesting a slight degree of hemiplegia of the left arm.

At 1 A. M. on January 8, facial palsy had become unmistakably marked, though not complete, and no doubt could be felt of the palsy of the left arm and hand; with the right hand she grasped strongly and with precision, whilst the grasp of the left hand was feeble and faltering.

One hour later, at 2 A. M., the scalp was turned back from the bone at the wound, which exposed a small grayish button, apparently a puriformly softening clot; and when this was detached, a circular hole in the parietal bone came into view. It was as sharply cut as if it had been cut with a punch. The pericranium around the margin of the hole for the breadth of about two inches was detached, swollen, and grayish. The parietal bone (the child being so young—four years and a half) was found to be so thin and elastic that it did not offer enough resistance to enable the teeth of the trephine to bite; the hole was therefore enlarged with a cutting forceps, and whilst this was being done a little pus welled up from beneath the bone. The grayish button had a stalk which passed through a sloughy ragged hole in the dura mater. Exploring with a probe very cautiously through this hole for any splinters which might have been thrust in through the membranes, at the depth of about three-quarters of an inch from the surface something hard was felt, and withdrawn with a slender forceps. It proved to be two pieces of detached bone with hairs entangled around them. A little boric lint-charpie was now laid lightly on the wound, and fixed with a gauze capeline.

The temperature before the operation unfortunately was not recorded. During the first six hours afterwards it was subnormal, as these figures show—at 3 A. M., 98.2°; 4 A. M., 97.6°; 5 A. M., 97.2°; 6 A. M., 96.8°; 7 A. M., 98 4°; 8 A. M., 97.0° Fahr.

At 10 A. M. the temperature was rising, and the pulse 112. The child was quiet. The palsy of the face and left arm continued, and slight palsy of the left leg was noticed.

At 11.30 A. M. the axillary temperature had risen to 101.6° Fahr. The hair was now clipped short and an ice-cap put on. This seemed to soothe the child. At 4 P. M. the temperature had fallen to 99.6°, and at 9 P. M. a further fall of .6° was noted. At midday, after taking some beef-tea, she vomited, and again several times in the course of the afternoon.

January 9.—Temperature at 1 A. M. 99°, and at 9 A. M. 98°. No vomiting since yesterday evening. Inclined to sleep. On dressing the wound the charpie was found wet with pus. At 9 P. M., temperature 98.4°, pulse 100. Once sick.

10*th*.—8.30 A. M., temperature 98.4°. Fretful through night, and twice sick. Left pupil perhaps slightly larger than the right. The facial palsy seems not quite so marked. 10.30 P. M., temperature 96°.

11*th*.—4.30 A. M., temperature 96.6°; 11 A. M., temperature 97.6°, pulse 100. A rather restless night. Bladder not emptied since yesterday. Several ounces of urine withdrawn with catheter. 6 P. M., drowsy; temperature 97°.

12*th*.—She moves her left arm better. Temperature at 5 A. M., 98°; at 10.30 A. M., 96.4°, pulse 78; at 7.30 P. M., temperature 97.4°. Has voided urine.

In the afternoon hungry; asked for and ate with relish a slice of bread-and-butter.

13*th*.—A small hernial button projects through the opening in the bone.

It would be wearisome, and it is not necessary, to continue reading the daily reports from this date. The hernia rose above the level of the scalp, and attained the size of a small nut. It then shrank and disappeared. On the 18th the facial palsy was gone; she was sitting up in bed, playing with toys and prattling merrily at the midday visit. The temperature, however, was still subnormal—it ranged between 98° and 97°, and averaged 97.3°—the normal, 98.5°, not being attained until the 26th. At this date the wound was clean and granulating, and had contracted to about one-half. The left arm was still very feeble; it was colder than the right, and its surface, including the hand, was bluish and mottled; its circulation was manifestly weak.

February 9.—Slight contraction of the fingers of the left hand has occurred; the palsy and feebleness of circulation in the limb continue little changed.

26*th*.—The mottling of surface and coldness of the limb are less marked, the grasp is also stronger, and the palsy of the leg has disappeared.

On March 10 and 27 two small exfoliations came away. After this the wound quickly closed, and on May 10 the scar appeared thoroughly sound; it was, however, thin, and pulsated very perceptibly. She may now be considered convalescent. Every trace of palsy is gone. But, knowing her to have an unhappy home, she is detained still, in order to keep her under observation.

I have given the details of this case at some length because of its importance. The points to which I would particularly ask your attention are, the duty of thoroughly examining every fresh head-injury, the nature of the wound, the date when cerebral symptoms were first noticed, the one-sidedness of the symptoms, the nature of the intracranial disorder denoted by the latter, the value of a true recognition of the association of these symptoms with abscess, the increase of the palsy immediately after the operation, the initial rise of temperature, the fall of temperature on using the ice-cap, the long-continued subnormal temperature, and the hernia cerebri. It will be convenient to take these *seriatim*.

The importance of examining every head-wound when first seen. Had this been done, the fracture—since it was compound, and not a mere crack without irregularity of surface—could not have been overlooked. The omission is very pardonable, for the child was not brought to the surgery till the third morning after the accident, and the absence of symptoms misled. There was not anything in the child's condition to arouse suspicion of a grave injury, and the wound was therefore supposed to involve the scalp only.

The nature of the injury. A punctured wound. Such wounds are, as is well known, often complicated with the impaction of splinters and foreign substances, and are on this account more dangerous than other forms of wounds. (I have mentioned that the mother's account of the way in which the injury was received appeared improbable. An anonymous letter afterwards received, purporting to be written by a neighbour, said that the child's drunken father in a passion threw a small poker at it, and that this stuck in her head.) A wound of this kind ought, therefore, always to be very carefully explored, in order that any splinters, etc., driven through the membranes into the brain may be extracted before the onset of inflammation, since their extraction may avert this.

The late date at which the symptoms of grave encephalic disorder manifested themselves. Eleven days passed between the date of the wound and the fit. Such late appearance of symptoms of grave cerebral disturbance is by no means unusual even in compound fractures of the skull, whilst it is the rule in simple

fractures and in severe bruises with or without external wound, when the encephalic disorder is localized and not diffuse.

Very early in professional life I was taught this by two cases of compound fracture of the vault of the skull by a glancing rifle-bullet, which came under my observation in the Crimean campaign. In one of these cases the parietal bone was shattered and driven in upon the superior longitudinal sinus and brain in which an abscess formed under the fracture. Yet here no grave symptoms were present till after the sloughs had fallen and the wounds had nearly closed. Both men, who had been supposed to have only scalp-wounds, were meanwhile up and about. A woman some years ago admitted into Bird ward furnished an apt example of this late development of symptoms of cerebral disorder. She had been struck in a fray with a brickbat on the right temple, thought little of the cut, drank hard, and went about as usual until a month afterwards, when she fell unconscious, and had convulsions restricted to the left limbs. In the anterior lobe of the right cerebral hemisphere was a large abscess, which was evacuated by trephining.

The kind of symptoms. One-sided spasm and palsy; hemiplegia supervening, not directly, but after an interval, has been thought to be pathognomonic of diffuse inflammation of arachnoid. In the case of our little child, and also in the other cases to which I have just referred, one-sided spasm and palsy, appearing late, were associated with localized and not diffuse inflammation, with cerebral abscess and not diffuse meningitis; and I think this is the rule.

The importance of recognizing the association of intracranial abscess with late cerebral symptoms is evident, since trephining may evacuate an abscess and save the patient's life, whilst in diffuse meningitis trephining is useless.

The increase of the palsy after the operation makes it probable that the hemiplegia was not the direct consequence of pressure (which, in presence of an opening freely communicating with the external surface, could not have been great), but to inhibition of function through nutritional disturbance of brain-tissue around the inflammatory focus, a temporary increase of the local inflammation being provoked by the fresh injury unavoidably inflicted in trephining. The rise of temperature some hours later is favourable to this construction.

The fall of temperature upon the use of the ice-cap. I cannot too strongly impress on you the value of this way of applying cold to the head. I have the strong conviction that I have seen patients with fractures of the skull recover, who but for it would most probably have perished from consecutive intracranial inflammation.

The subnormal temperature observed, lasting during several days, is not unusual in these cases. It occurred also in a case of cerebral abscess successfully trephined in a boy in Percy ward two years ago.

The hernia. Probably this consisted mainly of granulation-tissue and inflammatory products. It was in the main a false hernia cerebri, with little admixture of brain-tissue. No pressure was made on it, and no escharotics were applied to it. It appeared to be maintained by the irritation of the necrosed bone, and to subside on the exfoliation of this.

The child appears to be now quite well, but can we confidently expect she will continue so? May no ulterior consequences ensue? We cannot affirm this. On the contrary, epilepsy not infrequently attacks the subjects of such injuries months afterwards, when they seem to have thoroughly recovered and to be in perfect health.

At the date of publication she continues perfectly well.—*Med. Times and Gaz.*, April 23, 1881.

Hospital Notes.

Atony of the Bladder; Recovery.

J. L., labourer, aged 57, with marked arcus senilis, was admitted into Mr. PEARCE GOULD'S ward at the Westminster Hospital, on August 10, 1880, suffering from retention of urine. He had always enjoyed good health until twelve months before, when he found difficulty in passing his urine. This gradually increased until the night before admission, when after a hard day's work he was unable to pass a drop. The "difficulty" he noticed was a slow, feeble stream, and inability to empty his bladder, with frequency of call to micturate.

On admission the distended bladder formed a prominent tumour in the hypogastrium, reaching almost up to the umbilicus. The prostate felt from the rectum was hard and moderately enlarged. Mr. Gould passed without any difficulty an olive-headed catheter, No. 10, English scale, and drew off rather more than four pints of clear, acid, healthy-looking urine. The urine flowed slowly, falling vertically from the end of the catheter. The influence of respiration on the stream was evident. After the escape of about a pint the flow ceased, and the rest was forced out by the hand above the pubes, and when the pressure was relaxed air was heard to be sucked in through the catheter. The man was kept in bed on full diet, and his bladder was emptied by catheter night and morning. On Aug. 15 a mixture containing five minims of tincture of nux vomica was ordered to be given three times a day. The catheter was always carefully washed in carbolic lotion—5 per cent.—before being used, and lubricated with carbolic oil—10 per cent. This appeared to cause some irritation of the meatus, and vaseline was substituted for the oil, and the irritation quickly passed away. There was no sign of any vesical irritation; the urine remained clear, acid, free from mucus and albumen, and the bladder gradually regained its expulsive power. Thus on Aug. 15, the patient could pass 4 oz. of urine by his own efforts, and on Aug. 17 this had increased to 10 oz., and thus he improved until on his discharge on Sept. 15, there was only half an ounce of "residual urine" to be drawn off.

Remarks.—This case is an example of the extreme degree of atony of the bladder with complete retention of the urine, not unfrequently met with in connection with chronic prostatic enlargement. The daily use of the catheter has long been recognized as the proper mode of treatment for such a condition, but the occurrence of decomposition of the urine with subsequent chronic cystitis have too often prevented the attainment of a perfect result. The case illustrates one application of antiseptic surgery to urinary surgery, and its value in preventing the decomposition of the urine can hardly be overrated. The result of the daily emptying of the bladder in leading to a gradual and almost perfect recovery of the bladder's power, throws considerable light on the way in which this atony of the bladder is originally produced. For it is clear that it is not by obstruction to the outflow of urine with retention and stretching of the muscular coat of the bladder, nor is it from any local action of decomposed urine; but rather, it seems, from a small primary "residue" of urine. A few drachms which the bladder cannot evacuate have a paralyzing influence upon the bladder muscle, which leads to the retention of a greater amount of urine; this, again, to further diminution of expulsive power, and so on until the stage of complete retention and atony is reached. The history of such cases before they come under treatment, as well as the results of catheterism, bear out this view. The symptoms often arising from a very small quantity of "residual urine" and the importance of its relief have been laid stress upon by Sir H. Thompson. The patient's condition (March 2) remains as on the date of his discharge; he continues to draw off the few drachms of "residual urine" every night. The quantity has not increased since he left the hospital.—*Lancet*, March 12, 1881.

MONTHLY ABSTRACT.

Anatomy and Physiology.

A Case of Movable Liver.

In the *Wiener Med. Blätt.* is recorded an observation accidentally made on a physician by Dr. CHVOSTEK. There were no symptoms whatever of anything wrong in the abdomen, and there was no history of violence or of any occurrence that threw light upon the condition. When the man stood up, the upper and posterior border of the liver was felt to come forward from under the margin of the thorax, and to be six centimetres and a half below the tip of the xiphoid cartilage in the right parasternal line, and one centimetre below that point in the left parasternal line. The left end of the liver was plainly felt through the abdominal wall, and from it the anterior, or rather the lower edge of the liver could be traced arching down to the right, being in the middle line fifteen centimetres below the xiphoid process, and in the right nipple and axillary lines respectively seven and one-and-a-half to two centimetres below the edge of the thorax. The liver did not markedly descend on taking a deep inspiration. In the horizontal posture it could be replaced under the ribs to a considerable extent. In lying on one side the organ fell to some extent towards the dependent side. The lower edge of the suspensory ligament could be felt tightly stretched, but this produced no pain, and so completely absent were all symptoms that the condition was only discovered accidentally.—*Lancet*, March 12, 1881.

The Source of the Liquor Amnii.

Our knowledge concering the source of the liquor amnii is somewhat uncertain, and two theories are held with regard to it. The first is that it is the product of the secretion or transudation from the maternal vessels in the uterus; the other, that it is the product of the secretions of the fœtus. Accurate knowledge upon this subject is of very great importance, for its elucidation lies at the foundation of the pathology of some of the diseases of pregnancy and intra-uterine life, and involves the whole question of the activity of the kidneys in the fœtal state. Experiments have been made upon pregnant animals with a view to solving the problem, and the most recent are those conducted by WIENER in Breslau, the results of which are published in a paper in the *Archiv für Gynäkologie*.

Two or three kinds of experiments have been performed. In the first, a solution of sulph-indigotate of soda was introduced into the jugular vein of rabbits in an advanced state of pregnancy, and the animals killed at intervals ranging from a quarter of an hour to two hours and a half after the injection was made. It was then found that the liquor amnii in all the cases contained the colouring material used, its presence being proved by the microscope. In none of the cases was the colouring material found in the organs of the fœtus, with the exception of the stomach and intestines, into which it had obtained admission by the process of swallowing; none appeared to have passed by the fœtal kidneys. The quantity of the material found in the liquor amnii was small, and this appeared to be due to its elimination by the maternal kidneys. To obviate this the kidneys were extirpated before the injection was made, and in cases thus treated a large quantity of it passed into the amniotic fluid. When animals in

the early stage of pregnancy were similarly treated, hardly a trace of colouring matter was found in the liquor amnii. To decide what part the fœtus plays in the production of the liquor amnii, the colouring material was introduced into the body of the fœtus. A quantity of the coloured solution was injected into the amniotic sac and the fœtus made to swallow, but it was found that the material did not in this way enter the blood of the fœtus. It was then injected under the skin of the back of the fœtus. On subsequent examination, the colouring material was found in the kidneys of the fœtus in precisely the same situation as it was found in those of the mothers in the first series of experiments. It was traced there as soon as twenty-five minutes after the injection, and in one case a drop of coloured urine was discovered in the bladder. In these experiments, moreover, the liquor amnii was coloured blue.

From these data Wiener argues that the fœtal kidneys are not only active during fœtal life, but that they secrete rapidly, and are the chief source of the liquor amnii. He maintains, moreover, that during early life the fluid comes exclusively from the embryo until the fœtal membranes come into intimate contact with the maternal tissues, and the placenta is formed. At first the fluid is derived from the cutaneous vessels of the fœtus, afterwards from the Wolffian body, and later from the kidneys. After the membranes have come into intimate connection with the uterus, a portion of the fluid comes from the maternal vessels. Wiener explains the varying results of chemical analysis of the liquor amnii, and the occasional absence of urea in it, by the statement that the urea in it continuously undergoes decomposition or diffusion into the maternal blood.

Besides the experiments referred to, other evidence bearing upon the question is brought forward and discussed, especially that furnished by cases in which occlusion of the urinary passages had occurred during fœtal life. In these cases considerable quantities of urine have been found behind the occlusion, the secretion of which, according to Fehling, is pathological. This opinion of Fehling is, in our opinion, successfully controverted by Wiener. It cannot be questioned after the evidence brought forward, that both the maternal vessels of the uterus and the secreting organs of the fœtus contribute to the production of the amniotic fluid, but the proportion the contributions of each bear to one another cannot be regarded as finally settled. The evidence adduced by Wiener in favour of the fœtal kidneys being the chief source, although indirect in its characters, goes far to prove his view; but until further and more conclusive evidence is adduced we cannot go beyond the statement that the liquor amnii is the joint product of the vessels of the uterus and of the fœtal kidneys.—*Lancet*, March 12, 1881.

Materia Medica and Therapeutics.

Chaulmugra Oil.

Chaulmugra oil is obtained from the seeds of *Gynocardia odorata*, a large tree, much branched, with ash-gray globular fruit, some three or four inches in diameter. It is a native of Pegu, Tenasserim, and other parts of the Malayan peninsula, whence it extends into India, being found in Assam, Khasia, and Sikkim, but not in the central or western parts. The seeds (*Gynocardiæ semina*) are officinal in the *Indian Pharmacopœia*, and are popularly known as chaulmugra, chaulmogra, or chaulmoogra seeds. The oil expressed from these seeds has been known for centuries to the Fakirs of India, by whom it is largely used in the treatment of leprosy, and skin diseases generally. There is evidence to show

that it has been employed by the aboriginal tribes in certain parts of India from the remotest times.

At the ordinary temperature, the oil is solid, has a light-brown colour, and a decidedly disagreeable taste and smell. It may be readily melted by placing the bottle in hot water, or allowing it to stand for a few minutes in front of the fire. It has been analyzed, and is found to consist of palmitic, gynocardic, hypogæic, and coccinic acids. The palmitic constitutes sixty-three per cent.; but the gynocardic acid, which is found in a much smaller proportion, is probably the active ingredient. The oil is given internally, and is also used as an external application. It is most conveniently administered in empty capsules, or in *perles;* but many patients take it well in milk, cod-liver oil, or almond-oil. The usual dose is from five to fifteen minims. It is best to begin with a small dose, say two or three minims, three or four times a day, gradually increasing the quantity as the patient becomes accustomed to it. Dr. Murrell, as the result of a large number of observations, found that, when administered in milk or cod-liver oil, ten minims very frequently upset the stomach, giving rise to nausea and vomiting, and not unfrequently diarrhœa. The chaulmugra oil *perles* contain four minims each, and most patients will take from one to four of these at a dose. When it is desirable to vary the dose frequently, the empty gelatine-capsules will be found useful. It is almost essential that some such special mode of administration should be adopted, as few patients like the taste of the oil, or will consent to take it by itself for any length of time. It must always be given after meals.

Chaulmugra oil has long been used in India in the treatment of leprosy, and has acquired a high reputation as a remedy for that disease. From the comparative rarity of true leprosy in England, much difficulty has been experienced in collecting a sufficient number of cases in which to try its effects. This difficulty is increased by the fact that, in temperate climates, the disease often exhibits long periods of comparative rest or subsidence, quite apart from any special treatment. Dr. Robert Liveing has published a record of six cases of elephantiasis Græcorum, in which he was able to give the chaulmugra a long and continuous trial. He found that all six cases were decidedly benefited by the treatment, and the patients themselves were strongly impressed with the belief that they had decidedly improved under its internal use as a medicine. Mr. Wyndham Cottle has also published two cases in which equally good results were obtained. The oil was here given either as a mixture suspended in gum, or in the form of emulsion. Unusually large quantities were administered, the dose being gradually increased to as much as a drachm three times a day. Moreover, an ointment, consisting of twenty grains of chaulmugra oil to the ounce of lard, was applied freely to the skin. Quite recently, Dr. David Young of Florence has published a more extensive series of cases in which most striking results were obtained. The forms of the disease noted were: macular leprosy, four; anæsthetic leprosy, twenty-three; tubercular leprosy, fifteen; and mixed cases, eleven. The patients were all adults, the proportion of males to females being about three to one. The treatment consisted in the internal administration of doses varying from five to twenty drops, three times a day, commencing with the smaller quantity, and gradually increasing it until the latter was reached. Externally, a liniment, composed of an ounce of the oil, mixed with a drachm of rectified spirit, was applied to the diseased surface. Dr. Young found that, in the macular and in the early stage of the anæsthetic forms of leprosy, the chaulmugra was of decided value. The good results appeared earlier when the powdered seeds were given in addition to the oil. A liberal milk-diet was found to be a valuable auxiliary. Several of the cases were complicated with bronchial affec-

tions, which were markedly benefited during the treatment, all the patients gaining flesh rapidly.

In many skin diseases, the chaulmugra oil treatment proves beneficial. It has been tried with success in psoriasis, lupus, and obstinate cases of scabies and ringworm.

Chaulmugra oil was originally introduced as "a specific for consumption;" but there is certainly as yet no evidence to show that it deserves this distinctive title. Dr. Burney Yeo has reported nine cases of phthisis in which it was given internally with little or no benefit. He considers that it gives no promise of help in well marked cases where the disease has reached the stage of infiltration and softening of any considerable portion of the lung. Dr. Murrell, as the result of a series of observations extending over two years and a half, arrives at a somewhat different conclusion. In thirty-one of his cases, the chaulmugra oil was given in milk, in doses ranging from three to ten minims, four times a day; and, in twenty-four of these, decided benefit was experienced. The chaulmugra seemed to act, first, as an expectorant; then the cough became less troublesome; and, finally, a gradual improvement took place in the general symptoms. The best results were obtained when, in addition to the internal administration, from two to four ounces were rubbed into the chest weekly for two or three months. The inunction never upsets the stomach or gives rise to unpleasant symptoms. The smell is not very agreeable, but is readily covered by using a little violet-powder. The oil may be employed alone or simply as an adjunct to other treatment.

It is found that children, as a rule, take the chaulmugra without difficulty; and its internal administration, combined with inunction, has been employed with benefit in scrofula and in cases of marasmus.

In chronic rheumatism and in rheumatic gout, it is most useful. A patient, recording his own experience, says: "A month since, I was suddenly seized with a severe attack of rheumatism; and so acute was the pain, that, for two days and nights, I could not sleep, and the swelling of my hands made me quite helpless. I could neither dress nor feed myself. Having had a sharp attack of rheumatic fever, about twenty years ago, I was very much afraid that I was again to be laid aside from business; and you, I fear, will hardly believe that, within three hours of the application of the oil, the use of my hands was restored to me; and that, from that day to this, I have had no return of the pain." Non-professional testimony is not, as a rule, very trustworthy, but there are occasions when it cannot be ignored. For stiff joints, sprains, and bruises, both in men and horses, the oil is said to be equally efficacious.

For neuralgia and sciatica, the chaulmugra oil is generally mixed with camphor and chloroform, or with an equal weight of a saturated solution of menthol in chloroform, and then rubbed in over the painful part.—*British Med. Journal*, March 26, 1881.

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Therapeutic Use of Pilocarpin.

That jaborandi, or, rather, its alkaloids, are likely to come into more general use as powerful therapeutic agents, appears to be indicated by the numerous notices of their employment which have recently appeared in the periodical literature of Europe and America. Within the last year, the use of pilocarpin has been advocated by more than one writer—notably, by Dr. Berkart—and it may, therefore, be of some service to our readers to consider certain of the facts in regard to its action which have been recently brought to light.

In August last, HARNACK and MEYER published (*Arch. für Exper. Path.*,

etc., vol. xii. p. 366) the results of observations which they had made in Professor Schmiedeberg's laboratory in Strassburg on jaborandi and its alkaloids. They found that the jaborandi leaves contained not only the alkaloid pilocarpin, but also another similar body, which they named jaborin, which was, to a great extent, antagonistic to pilocarpin in its action. This second alkaloid they found to be present in all ordinary specimens of pilocarpin; and to the presence of this adulteration they ascribed the somewhat contradictory results obtained by former observers. The pure pilocarpin causes, in warm-blooded animals, at first irritation of the terminations of the vagus in the heart, and, indirectly, of the vaso-motor centres; and, later, and in larger doses, paralysis of these terminations and centres. In spite of the paralysis of the vagus, the pulse becomes slower and slower. In regard to its action on the heart and bloodvessels, it closely resembles nicotin. Pre-eminently may pilocarpin be characterized as a drug which causes increased glandular secretion. It acts most energetically upon the salivary, sweat, mucous, and lachrymal glands; and that this increased secretion is not caused by the vaso-motor paralysis, of which we have spoken, is shown by the fact that that paralysis comes much later than the outpouring of the secretion, which is the first symptom of the action of pilocarpin. This result is probably due to an irritation of the nervous apparatus governing the gland. To the other actions of pilocarpin—on the pupil, the intestine, the uterus, etc.—we need not here refer.

The greatest value of pilocarpin appears to consist in its power of causing rapid elimination of effete material in cases of scarlatinal nephritis. It has been frequently administered in such cases, and with much benefit; and it appears likely that, if it be given with proper precaution, and with a due appreciation of certain dangers which surround its use, it may frequently be the means of saving life. What these dangers are has been lately very carefully pointed out by Dr. Seemann of Berlin (*Zeitsch. für Klin. Med.*, 1881, vol. ii. p. 552), and they demand the consideration of every intelligent physician. That œdema and uræmic phenomena, in cases of scarlatinal nephritis, are neither proportionate to one another nor to the quantity of urine passed, can readily be observed. In some instances, uræmia occurs when a normal quantity of urine is excreted, while in others no uræmic symptoms follow several days of anuria. In the former cases, the urine contains little urea, and in the latter the urea passes from the blood into the œdemic fluid, and hence becomes harmless for the time. When, however, at the beginning of convalescence, the excrementitious materials pass back into the blood, uræmia may come on; and obviously, the more rapidly they pass back the more danger is there. In virtue of its power of producing prompt and energetic increase of the sweat, salivary, and other glandular secretions, pilocarpin causes a very rapid reabsorption of the transudation, and, therefore, its administration may give rise to uræmic phenomena, which, though transient, may be highly dangerous. Seemann instances one case, in which this untoward result followed the administration of pilocarpin. Ohms (*Petersburg Med. Woch.*, 1878, No. 6), as well as Seemann, has observed that pilocarpin may cause, not merely dilatation of the small arteries, but even rupture of these vessels, and consequent hemorrhage; and if we recollect that the child affected with scarlatinal nephritis lies on his back, too weak to cough up the rapidly augmenting mucus which the pilocarpin calls forth, it will be seen that the circumstances of the case may predispose to catarrhal pneumonia to a dangerous degree. Seemann gives the following indications for the use of pilocarpin in such cases of nephritis:—

"1. Muriate of pilocarpin is useful in cases of scarlatinal nephritis, and may often save life when other remedies fail; but it must not be resorted to except

in very serious cases. 2. When, after its successful administration, the œdema begins to lessen, cure should be left to nature and to other remedies, because renewed doses of pilocarpin may cause too rapid absorption of the transudation, and may thus lead to uræmia. 3. After each dose of pilocarpin, the state of the respiratory organs must be carefully watched; if the bronchial mucus be not satisfactorily expectorated, or if the slightest indication of pneumonia show itself, further doses of the drug must not be given."

We believe that, if such indications be borne in mind, pilocarpin may be used safely and with great success in cases of scarlatinal nephritis which are otherwise hopeless; but the preparation used must be obtained from a thoroughly trustworthy source, and must be free from the jaborin which most specimens are said to contain, and which materially modifies the action of the drug.—*London Med. Record*, March 15, 1881.

Medicine.

Pathology of Atheroma.

The theory of the origin of atheroma, to which Virchow has given currency, regards it as of inflammatory origin, and has been conveyed into modern pathology by the help of the name "endarteritis deformans." This designation, although not unassailable, has been widely accepted on account of the apt expression which it gives to the conspicuous characters of the morbid change. The same theory of initial inflammation has been, in effect, adopted by Lancereaux, while Cornil and Ranvier do not admit any other element in the morbid process than simple degeneration.

The latter view is regarded as the more probable by the writer of a recent memoir in the Paris *Revue de Médicine*, M. Hippolyte Martin, who has endeavoured to ascertain the pathological origin of the degeneration, and believes that he has found it in a lesion of the nutritive arteries of the walls of the vessels, to which the visible degeneration is simply secondary. In the early stage of the affection the cells of the connective tissue of the vessels may be found notably increased in number, and the middle and internal coats are increased in thickness; these changes cannot be regarded as the result of any irritation by the globules of fat which may be found sparsely scattered through the wall. If the minute vessels which ramify in the external coat before penetrating the middle layer are examined, they are found to be healthy, with the exception of those which correspond to the spot of atheroma. Here, however, the nutritive artery of the degenerated region presents a striking proliferative endarteritis, which, in the case of extreme degeneration of the atheromatous patch, amounts to almost complete obliteration of the minute vessel, so that very little blood can circulate through it. This lesion is never absent, although considerable care may be necessary to find it. The change is only found in the vessel going to the diseased spot; other arteries, although closely adjacent, may be perfectly healthy. But it may be held that in the old, in whom generalized arterial disease is common, the affections of the arteries and of the nutritive vessels may be due to the same cause, and do not stand in any causal relation. In contravention of this objection, M. Martin describes the case of a lad, nine years of age, who died of diphtheria. At the autopsy two atheromatous spots were found in the commencement of the aorta, above the sigmoid valves. They were well marked, about a square centimetre in extent. All the other vessels were healthy. Sections at the position of the atheromatous patches showed, in the middle of healthy tissue of the outer,

and even of the middle coat, a perfect example of endarteritis of the nutritive vessels, one of which was almost obliterated. Moreover, it was evident from the histological characters of the two that the affection of the nutritive artery was of older date than that of the inner coat of the aorta.

This lesion in the vasa vasorum appears to commence in their inner coat, the nutritive supply to which is always the most difficult, but at a later stage the middle coat is also affected, and its muscular fibres may be observed to undergo a fatty degeneration. This alteration is regarded as inflammatory in nature, the result of some, at present unknown, cause. The facts Martin has ascertained are of much interest and importance, but they only put the origin of the disease farther back, and farther into the region of pathological mystery. It is conceivable that mechanical strain and other causes may determine the occurrence of a degenerative inflammation beginning in the wall of the strained vessel, but the cause of the affection of the vasa vasorum is entirely unknown. The changes in the larger artery may be due to the disease of the minute vessels, but what is to explain the latter lesion? And if we admit it to be a primary endarteritis, may not the disease of the wall of the larger vessel be in many instances of the same nature?—*Lancet*, March 26, 1881.

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Inoculation with Hydrophobic and other Saliva.

Prof. PASTEUR some time since announced to the Academy of Medicine that, in the blood of some rabbits which he had rapidly killed by inoculating them with some of the virus from a child suffering from hydrophobia, he had found a new *microbe*, which he evidently regarded as the microscopic being to which were due the specific properties of the hydrophobic virus. As in several other of his discoveries, his conclusion seems to have been a somewhat hasty one, for in a subsequent communication to the Academy (*L' Union Méd.*, March 24) he announces that in same experiments performed with the saliva of children dying of broncho-pneumonia he had produced exactly the same results. He therefore had to abandon his supposition that the *microbe* in question was specially connected with rabies; but, far from regarding this result as unfavourable to his doctrine as to the parasitic origin of virulent diseases, he considers that the detection of the *microbe* in the saliva of children dying from ordinary diseases opens up a new horizon to the doctrine of the parasitic origin of diseases, removing it from the restricted circle within which it has hitherto been confined, to the wider field of general pathology.

Prof. VULPIAN has recently addressed a note to the Académie de Médecine (*L' Union Méd.*, March 31), stating that he had injected under the skin of some rabbits saliva collected at the moment from persons in perfectly good health, and that the injection caused the death of the rabbits within forty-eight hours. Their blood was found filled with *microbes*, including the special one found by Prof. Pasteur after inoculating with the saliva taken from a hydrophobic patient. A drop of this blood diluted in ten grammes of distilled water, and injected under the skin of other rabbits, caused likewise the deaths of these animals, their blood also being found filled with *microbes*. These singular results, the interpretation of which is not very easy, are accompanied by another no less singular in not being constant. Other rabbits placed under identical conditions, and inoculated with the same saliva, did not experience the slightest inconvenience. It would certainly seem that experimental microbiology is scarcely yet on the way of becoming a clear or easy science in spite of the *fiat lux* of Prof. Pasteur.—*Med. Times and Gazette*, April 2 and 16, 1881.

Arsenic in Pseudoleukæmia.

Dr. F. W. Warfvinge relates in *Hygeia* for 1880 (*Nord. Med. Arkiv*, Band xii. Häft 4) four cases of pseudoleukæmia, principally with the object of showing that treatment by arsenic has a decidedly favourable effect. The first patient, a man aged 56, had enlarged lymphatic glands in the neck, groins, and axillæ, varying in size from a walnut to a hazel-nut; splenic dulness was 11 centimetres (4.3 inches) long by 10 centimetres (4 inches) wide. There were 3,220,000 red blood-corpuscles in a cubic millimetre; the white corpuscles were in the proportion of 1 to 140 red. Solution of arsenite of potash was given in two-drop doses twice daily; it was not tolerated at first, but, after a catarrh of the digestive and respiratory organs had disappeared, it was again taken without any inconvenience. Under the use of this medicine, a marked improvement showed itself; the lymphatic glands and the spleen diminished, and, after the arsenic had been taken (always in the dose above mentioned) for five weeks, the spleen had regained its normal size, and only slight traces of the enlargement of the glands remained. After apparent recovery, the disease returned, and the patient died a month afterwards. The second patient was a woman aged 62, with enormous lymphatic swellings in the neck, groins, and axillæ, and splenic dulness 9 centimetres in breadth. There were 3,700,000 red corpuscles in a cubic centimetre, and 1 white to 450 red. Four drops of liquor arsenicalis were given twice daily, and injections of arsenic (first 4, afterwards 9 drops a day) were made into one or other of the axillary glands. After twenty-five injections, the mass of glands was reduced from the size of a fist to a mass one inch in diameter. The patient died in an attack of asphyxia. At the necropsy, many lymphatic glands, varying in size from a hazel-nut to a walnut, were found in the anterior mediastinum. The cervical and retroperitoneal glands were swollen; the spleen was 15 centimetres long, and 9 centimetres broad. The ribs and sternum were very brittle; a gray-red mass escaped from the broken surfaces. The marrow of the femora presented the same appearance. In the third case, a woman aged 27 had a mass of enlarged glands, varying in size from a walnut to a hazel-nut, lying on the left side of the neck, and extending from the angle of the lower jaw into the subclavicular and axillary regions. In the groins and axillæ the swellings were somewhat smaller. There was nothing abnormal in the internal organs. The number of red corpuscles in a cubic millimetre was 3,700,000; and there was 1 white corpuscle to 250 red. Under the use of arsenic, reduction in the size of the lymphatic glands proceeded slowly but steadily, so that their size was considerably diminished. The fourth case was that of a boy, aged 8, with considerable enlargement of the cervical, axillary, and inguinal glands. The internal organs were healthy. There were 4,370,000 red blood-corpuscles in a cubic millimetre, and 1 white corpuscle to 190 red. Four drops of liquor arsenicalis were given twice daily, from July 18th to December 17th, with two short intervals. The lymphatic swellings diminished gradually, and the patient's appearance became more healthy.—*London Med. Record*, March 15, 1881.

Pathology of Diphtheria.

The pathological relations of diphtheria and the discovery of a micrococcal organism in the false membrane have made it almost certain that the morbid poison which gives rise to the disease is a parasitic organism. The observations to which we lately called attention that bacilli were to be found during life in the urine of patients suffering from the disease, and after death in the kidneys, con-

stitute another step in the demonstration. From a communication to the Paris Société Anatomique we learn that a French "interne," M. TALAMON, has succeeded in cultivating the organisms from eight cases. In the condition of complete development they presented a characteristic mycelium and spores. The former are tubes with partitions, at intervals, from two to five thousandths of a millimetre in length. These, under favourable circumstances, elongate and bifurcate, the bifurcations being characteristic in consequence of their incurved branches, like the sides of a lyre. In other conditions the mycelia do not become elongated, although they multiply so as rapidly to cover the surface of the cultivation liquid; they remain short and assume irregular forms, and give rise to numerous straight rods.

The spores are of two kinds, round or oval, which may be termed the spores of germination, and rectangular spores or conidia. The latter characterize the species. They form small rectangles of various sizes, their length being sometimes fifteen thousandths of a millimetre. They may be isolated or united in festoons or zigzag chains. At first homogeneous, they soon become filled with small round granules, highly refracting, and of the size of ordinary micrococci. The round or oval spores are those which, by their elongation, constitute the mycelium. They appear as clear points, from three to five thousandths of a millimetre in diameter, in the middle of a mass of granular material.

M. Talamon has inoculated this organism into the mucous membrane of the mouth or nose, or has given it with the food, in six rabbits, two guinea-pigs, four frogs, a fowl, and four pigeons. The rabbits died at the end of six, eight, ten, and eighteen days. That which died soonest presented an enormous swelling of the neck resembling the œdema of the neck in diphtheria, and due to a serous infiltration of the connective tissue, and the culture of this serosity showed the same organism with the characteristic conidia. The rabbit which died at the end of eighteen days presented a bilateral fibrinous pleurisy, with effusion. The effusion and pleuritic membrane also yielded, on culture, the organism which had been inoculated; and it could be recognized, either by simple microscopical examination or by culture, in most cases in the liquid contained in the pericardial and peritoneal cavities, and often in the kidneys. The organism was never obtained by cultivation of the blood contained in the heart. The liquid either remained clear or presented only ordinary bacteria.

In the four pigeons M. Talamon succeeded in producing characteristic false membranes. He first scratched the mucous membrane of the mouth with a bistoury, and then placed some of the cultivated organism in the interior of the mouth. At the end of twenty-four hours a thick membrane lined both sides of the mouth, the tongue, the false palate, and the back of the pharynx. It was yellowish-white in colour, and was formed, like the diphtheritic membrane in man, by epithelial cells, fat, micrococci, and bacteria. There were very few of the rectangular conidia, but these were abundantly obtained from the membrane by cultivation. Two of the pigeons died at the end of three days. In one the entrance to the larynx was covered by false membranes, and the trachea was full of a thick mucus from which the organism was obtained by cultivation, as also from the pericardial and peritoneal liquids, but not from the blood. The third pigeon remained ill for eight days, and then the false membranes became separated and the animal recovered. At this point, unfortunately, the experiments have been for the present arrested. They were carried on in the laboratory of the Hôtel Dieu, and some of the physicians, fearing lest some of the organisms might contaminate the patients, stopped the observations. We are promised a resumption of the inquiry at an early period. The facts ascertained are of the greatest importance, and seem to open out an entirely new field of investigation

as to the etiology of the disease, since M. Talamon hints that he possesses a clue as to the source from which the organism is derived in the case of human infection.—*Lancet*, April 9, 1881.

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Treatment of Diphtheria with Muriate of Pilocarpin.

Lax (*Aertz. Intel. Blatt.* 1881, No. 43), following Guttmann, has employed muriate of pilocarpin in a small epidemic of diphtheria, and has obtained results so far beyond his most favourable anticipation, that he thinks himself obliged to recommend it most earnestly for wider use. Between September 24 and November 17, he treated for diphtheria sixteen children of various ages, from one to sixteen years. The first six children were treated by pencilling with a four per cent. solution of nitrate of silver, and a solution of chlorate of potash as a gargle. To two quite young children, a mixture of chlorate of potash was given. Of the six children, four recovered quickly, while two, whose cases were very severe, died. In the last ten cases occurring after October 5, Lax employed exclusively the muriate of pilocarpin. Six of these were very severe, and in two of them death was expected every night. Nevertheless, all these children treated with pilocarpin entirely recovered. An increased secretion of mucus and saliva occurred, and great masses of diphtheritic effusion were expelled from the mouth as well as the nose. The breathing became freer, *râles* ceased to be heard, the fever passed away, and the appetite recovered. The children generally recovered in from three to five days. Labial herpes indicated the favourable processes in all cases. On the third day already all trace of the deposit on the soft palate and tonsils was removed. According to the age, Lax prescribed two to four centigrammes of muriate of pilocarpin, 60 to 80 centigrammes of pepsin, with two to three drops of hydrochloric acid in 70 grammes distilled water, giving every hour from one teaspoonful to one tablespoonful. In addition, Tokay wine was given hourly (a teaspoonful to a tablespoonful), and warm packs were applied to the neck.—*London Med. Record*, March 15, 1881.

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Diabetes associated with Disease of the Pancreas.

In 1877 M. Lancereaux read a note at the Académie, in which he demonstrated the existence of a form of diabetes mellitus, found in conjunction with pancreatic lesions. This, he alleged, constituted a special and distinctive variety of diabetes, characterized by a *début brusque*, considerable emaciation, with polydipsia and polyphagia, by peculiar alvine evacuations, and especially by a very rapid evolution. The study of Lancereaux has been made the basis of further investigations by M. Depierre (*Jour. de Méd. et de Chir. Pratiques*, Dec. 1880), which have led to the discovery of new facts in this connection. Various kinds of pancreatic alterations may be regarded as leading to this kind of diabetes. They may be primary lesions, or they may be the secondary result of the presence of calculi, or else they may be caused by compression of the ducts by neoplasms. In all such cases, there appeared to be a complete abolition of the pancreatic function. This suppression of a digestive function is revealed by special symptoms, thus constituting a variety of diabetes (called by the author "emaciating diabetes") which differs greatly in its clinical aspects from ordinary polyuria. In the latter disease there is said to be, as a rule, an initial stage of obesity, or at least of apparent health, thus rendering the progress of the malady slow and insidious. In pancreatic diabetes, on the other hand, we notice along with the absence of *embonpoint* a quite sudden explosion of symptoms. These ordinarily consist of grave intestinal manifestations, vertigo, vomiting, and jaundice. These symptoms after a while indeed disappear, but they leave the patients in a

condition of profound debility. Soon the essential symptoms of the disease put in their appearance. Sometimes, indeed, they occur from the very beginning, without any previous indications of morbid changes. They are polydipsia, polyphagia, polyuria, and autophagia (the latter probably meaning tissue-waste and emaciation). This combination of symptoms is rapidly established, reaching an acme in a few weeks or months, and it is this very point which appears to afford pathognomonic indication of the existence of this variety of diabetes. The habitual presence of diarrhœa is also noted. Sugar is voided in great abundance with the urine. Pulmonary phthisis is also a frequent complication. Emaciation is rapid. In a few months the patients lose successively their physical, intellectual, and genital powers. Then complete prostration and profound marasmus set in, to which there is superadded hectic fever, with the symptoms of consumption. The average duration of the sickness is about twenty months, though it may end in half a year, or last even three years. Greasy or creamy stools may afford a clue to the establishment of the diagnosis of pancreatic diabetes, but it must be remembered that they occur also in other affections of that organ. Another point which must be considered is the deficient digestion of nitrogenized substances in atrophic conditions of the pancreas. Thus, pieces of undigested muscle found in the stools of patients may awaken a suspicion of this disease. Besides the ordinary treatment of diabetes mellitus, the administration of pancreatine suggests itself as affording a possibility of artificially supplying the lacking aids to digestion.—*London Med. Record*, April 15, 1881.

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Medical Ophthalmoscopy.

In the *Berliner Klinische Wochenschrift* (Nos. 1 and 2, 1881) Dr. LITTEN gives an account of certain clinically interesting changes in the fundus of the eye.

1. In *General Anæmia.*—The fundus is bright red; the disk pale and sharply defined, becoming ultimately quite white, but without the bluish tint of atrophy. The arteries and veins are small, the central streak indistinct. Less characteristic, though more striking, are hemorrhages and white or grayish-white spots on the retina. Later the symptoms of neuritis or neuro-retinitis occasionally appear —the radial streaked clouding first of the disk, then of the retina, with the development of a white border to the vessels. Examining such retinæ microscopically, Dr. Litten observes a general cell-infiltration of the retina, and an inflammatory exudation of pus corpuscles ensheathing the vessels, these changes not proceeding in anæmia to the alterations in the interstitial tissue characteristic of chronic retinitis. The neuritis is sharply intra-ocular, and consists in cell infiltration and hypertrophic nerve-fibres. The white patches consist sometimes exclusively of white blood-corpuscles, with occasionally hypertrophic nerve-fibres, but never, he finds, exclusively of the latter. The power of vision is very little affected by the hemorrhages or the white patches unless actually in the central part of the retina. No one of these changes, he finds, is characteristic of particular forms of anæmia. Hemorrhages are in no way characteristic of pernicious anæmia, and, except as showing that the anæmia has reached a high grade, in no way justify an unfavourable prognosis. These hemorrhages and white patches he believes are, in general, of much commoner occurrence than is usually supposed. For example, he has met with them very frequently in cases of carcinoma uteri, more especially in fat, flabby females with cardiac symptoms like those produced in anæmia. Neuritis and neuro-retinitis are, in Dr. Litten's experience, more common after great loss of blood than in chronic anæmia, coming on generally in the first or second week after the loss, and leading frequently to atrophy.

2. In *General Venous Congestion*.—The fundus is here dark or even blackish-red, the disk also dark red. The vessels are gorged and tortuous, the tortuosities rising occasionally out of the plane of the fundus. With these differences from anæmia, there occur the same hemorrhages, white patches, and inflammations of the retina and optic nerve. The hemorrhages accompany the veins, and are not unfrequently in the periphery, where they may be readily overlooked. The white patches are rarer than in anæmia; inflammation, with marked swelling of the disk, more common. This inflammation he considers must depend on some other cause than simple anæmia or simple congestion, as he has in numerous experiments produced these conditions without being able to cause inflammation. The above changes he has observed most frequently in the general venous congestion of chronic bronchitis and emphysema, and in two such cases with marked cyanosis he saw in the periphery peculiar coin-like hemorrhages which we do not remember having seen described. They were of various sizes, with sharply defined edges, mostly in relation with the veins, hanging on them like berries on a stalk. In one of these patients a second and fatal attack showed hemorrhages of the same peculiar character, lying chiefly in the outer retinal layers.

3. *Case of Poisoning with a Mixture of Nitro-benzol and Aniline*.—The patient was admitted in the deepest coma, which lasted forty-eight hours. The skin and mucous membranes, in place of the usual blue or grayish-blue of pure nitro-benzol poisoning, had a deep violet colour. The fundus was of an intense violet colour, with a few slight hemorrhages, the vessels as if filled with ink. There was no affection of sight, either as to sharpness or perception of colour. Whether the blue colour in pure nitro-benzol poisoning result from reduction of the nitro-benzol to aniline, or, as seems more probable, from deficient absorption of oxygen, there appears good reason to suppose that the violet colour in this case resulted from the aniline mixed with the nitro-benzol.

4. *Apoplexy of the Brain and Retina from miliary aneurisms*.—The patient was struck down suddenly with left hemiplegia and the usual partial facial paralysis of the same side. The ophthalmoscope showed numerous and extensive hemorrhages, completely hiding the fundus. The post-mortem examination disclosed numerous subarachnoid and intra-cerebral hemorrhages, with aneurismal dilatations of the vertebral and middle cerebral arteries. The retina was suspected to be similarly affected, and on examination was found to be so, but owing to the diseased vessels lying everywhere amid the hemorrhages, no accurate examination of their coats could be made. What could be seen was sudden dilatation of the calibre of the vessels, which had ruptured at the same time as those in the brain from some sudden increase of the already high arterial pressure.—*Med. Times and Gazette*, March 19, 1881.

Nerve-stretching in Locomotor Ataxia.

The operation of nerve-stretching as a means of treating locomotor ataxy was introduced, it will be remembered, by Dr. LANGENBUCH, who recorded a startling improvement in a case so treated, the intense pains and considerable ataxy having almost entirely disappeared after the operation, and the diminished sensibility having returned to the normal. Symptoms of similar character and of marked degree persisted in the upper limbs, and, indeed, appeared to have become more intense. Hence it was decided, three months later, to stretch also the nerves of the arms. While the patient was under the influence of chloroform an epileptic fit occurred and he died. The spinal cord from this important case was given for microscopical examination to Professor WESTPHAL, who has just published the results in the *Berlin. Klin. Wochenschrift*. The cord was seriously

crushed at certain places, probably in the process of removal. Other parts, however, were in good condition for examination, especially the lumbar enlargement, the upper part of the cervical region, and small parts of the dorsal region. These parts showed nowhere the clear tracts which indicate the presence of sclerosis in hardened cords. Microscopical examination in glycerine showed no granule corpuscles nor the translucent appearance which indicates degeneration. After tinting, the posterior columns were found intact throughout, without a trace of sclerosis or of atrophy of the nerve-tubules. The periphery of the posterior columns, in which a slightly paler colour had been noted with the naked eye, tinted more deeply than the rest, and here the regular arrangement of the nerve-fibres was wanting, and the condition showed clearly that this appearance had only arisen from an injury during the removal of the cord. Sections from the dorsal region and the upper cervical region showed also a perfectly normal white substance, nowhere any trace of sclerosis or of atrophy. No abnormal changes were found in the gray substance, and the nerve-fibres of the anterior and posterior roots exhibited also no trace of atrophy.

It is certain from these facts that the case was not one of posterior sclerosis. Can we (Westphal asks) from these facts draw the inference that in a certain stage of tabes the disease may exist as a neurosis without structural changes, and that the degeneration of the posterior columns represents a later and consecutive change which has nothing to do with the special symptoms, in accordance with the older view held by Trousseau? This conclusion seems incompatible with the fact that in all cases examined hitherto, without a single exception, structural changes in the posterior columns have been found. Moreover, the case of Dr. Langenbuch does not, he urges, point to such a conclusion. The clinical history has only been very briefly recorded, but the facts as stated are altogether peculiar. The affection had been of very rapid development; although the symptoms were advanced, they had only existed for a few months, and the arms were considerably affected a few months later. The case thus resembles those of so-called "acute ataxy," such as occur spontaneously or after acute febrile diseases, and which have a course altogether different from that of ordinary tabes, often ending in complete recovery. The nature of these cases is unknown.

Langenbuch was inclined to regard his case as one of a primary affection of the peripheral nerves, but, unfortunately, the large nerve trunks could not be removed at the post-mortem examination. It is, however, noteworthy that at the operation the left sciatic was seen to be "reddish and somewhat swollen."

In publishing these facts, Westphal does not desire to discountenance the operation in other cases in which the existence of a spinal lesion is undoubted, since, as he rightly points out, experience rather than theory must be our guide; but he strongly urges, and with reason, the great importance of a thorough and skilled examination of the nerve symptoms in all cases before the operation, that we may know whether the cases so treated are to be regarded as examples of true posterior sclerosis or not.—*Lancet*, March 26, 1881.

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On the Disappearance and the Localization of the Knee Reflex.

The value of this reflex, as a means of diagnosis in diseases of the spinal cord, was first established by Professor Westphal, of Berlin, who designated it the "knee phenomenon." The term commonly employed—"patellar tendon reflex"—is objectionable, as involving the idea that it is a simple reflex process connected solely with the patellar tendon. A much better name is that given to it by Dr. Hughlings-Jackson—the "knee-jerk." It consists, as is well known, in the contraction of the quadriceps extensor cruris following, in health, a blow on the

patellar tendon. Westphal believes that it is no simple reflex action, but a complex phenomenon, depending primarily on the muscular tone of the quadriceps extensor, and secondarily on a reflex. In typically developed cases of gray degeneration of the posterior columns of the spinal cord (tabes dorsalis or locomotor ataxy) this reflex is absent, its disappearance is one of the earliest symptoms of this degeneration, frequently preceding the disturbances of sensation and motion that mark the full development of the disease. Its disappearance implies disease of the reflex track, or, excluding the nerves and their roots, it implies disease in the lumbar enlargement of the spinal cord. Professor WESTPHAL, in an address to the Medical Society of Berlin, has sought to answer the further questions—(1) In those cases where the disappearance of the knee reflex forms the first symptom of tabes, is there already anatomical change in the lumbar posterior columns? and (2) If so, where; that is, in the postero-external column (root-zone of Charcot) or in the postero-median column? An answer to these questions need not be looked for in cases where the fully developed disease has caused death, but Professor Westphal thinks the following case throws some light upon them: In March, 1877, a male patient aged thirty-two, was admitted into Charité suffering from mental aberration. His family history showed a strong tendency to psychical and nervous disease. A year before the above date the patient complained of weakness of sight, but ophthalmoscopic examination gave a negative result. Six months thereafter he became completely blind, and optic atrophy was now found. The mental disease for which he was admitted appeared in a marked form eight days before admission. His blindness was very nearly total on both sides—the pupils insensitive to light, but reacting on accommodation; his articulation was slightly affected; but with these exceptions there was no alteration in the nervous system. Sensation and motion were perfect, and his gait was the normal walk of the blind. The knee reflex on both sides was normal. His mental aberration consisted in moderate intellectual weakness with delusions. In June, 1878, the delusions had all disappeared, the intellectual weakness alone remaining. Next he became hypochondriacal, and his articulation was more affected. Ultimately he spoke nothing, became uncleanly in his habits, and refused nourishment. In 1879 he was again in the condition of simple intellectual weakness. During all this time there was no change in sensation or motion. The knee reflex was proved from time to time, and failed for the first time in October, 1879, in the right leg, that of the left being still weakly present. In December, 1879, diarrhœa with bloody stools appeared; and in January, 1880, the patient died with fever, delirium, and tremor of the limbs. Five days before death the knee reflex failed in the left limb also. The post-mortem examination showed slight membranous exudation on the surface of the dura mater, cloudiness but no adhesion of the pia mater, and atrophy of the optic nerves and tracts. To the naked eye the spinal cord appeared normal, but hardened in bichromate of potash, it showed degeneration of the postero-external columns, and in a less degree of the posterior parts of the lateral columns. The degeneration was most extensive at the lower part of the cord, gradually diminishing upwards, and nowhere affecting the postero-median column. It showed microscopically, numerous "granule corpuscles," considerable disappearance of medullated nerves, and thickening of interstitial tissue; not, however, the complete atrophy of fully developed gray degeneration. The gray substance and posterior roots were normal. Professor Westphal considers himself justified in arguing that the degeneration of the postero-external column produced failure of the knee reflex. The degeneration in the lateral column could not be the cause, for (1) frequently in tabes, when the knee reflex fails entirely, the lateral columns are quite normal, and (2) the lateral columns have been found diseased to the lumbar enlargement,

without the slightest decrease of the knee reflex. The argument, he remarks, is supported by the following facts: (1) the almost constant failure of the knee reflex in tabes dorsalis, combined with the almost constant occurrence of degeneration of the postero-external column as its first change; and (2) the occurrence of complicated cases of spinal disease, where the knee reflex is retained, and where also uniformly the postero-external column is healthy.

Professor Westphal then proceeds to discuss certain fallacies with regard to the knee reflex. He points out that although many authors have given cases of developed tabes with the knee reflex retained, no case has been published where the ordinary symptoms of tabes were present, with the exception of the absence of the knee reflex, and where the post-mortem examination has shown gray degeneration of the posterior columns to the lumbar enlargement. Numerous cases, he says, of disseminated gray degeneration with muscular spasm and even foot clonus have been brought to him as tabes dorsalis. With regard to the 1.56 per cent. of healthy individuals in whom, according to Berger, the knee reflex fails, Professor Westphal says he never met with a case of failure in an undoubtedly healthy person, but he points out that the reflex is difficult to produce (1) in those who have short, thick legs, or (2) short patellar tendons not furnishing length sufficient for the necessary vibration; and (3) the reflex will be absent where the muscular tone of the quadriceps extensor is absent, *e. g.*, in extensive acute disease of the gray matter of the cord, etc. The absence of the knee reflex in a seemingly healthy individual, Professor Westphal would consider a sign of latent tabes, which may remain undeveloped for years, or, since the disease is not necessarily and absolutely progressive, may never be developed. Naturally, the gradual disappearance of the phenomenon if observed has a much higher diagnostic worth than the simple discovery of its absence. The knee reflex, Professor Westphal remarks, ought to be proved in all obscure cases of nervous disease—*e. g.*, in hypochondria. He has met with several cases of hypochondria with no spinal disease, and the knee reflex retained, where tabes dorsalis has developed itself later.

What was the nature of the case discussed above? The lightning pains of tabes and the disturbance of sensation and motion all failed here. The degeneration in the posterior parts of the lateral columns occupied the position of the "crossed pyramidal tracts"—*i. e.*, of the fibres which cross at the anterior pyramids. The disease could not be followed into the pyramids, and this, along with the fact that no centre of disease was found in the cerebrum, shows that it was not a case of secondary descending degeneration, but a primary degeneration of the above-mentioned system of fibres. Whether the degeneration of the postero-external columns is also a "system disease"—*i. e.*, a disease of a column of functionally equivalent nerve-fibres—is a much more difficult question, chiefly because the results of development and pathology are not yet at one in the differentiation of the two parts of the posterior column. The localization of the knee reflex, however, in the postero-external column seems thoroughly justified. Disease of that column appears on reaching a certain intensity to destroy the tone of the quadriceps extensor, and thereby the knee reflex, giving us a means of most accurate (or even, as Professor Westphal says, elegant) diagnosis in diseases of the spinal cord.—*Med. Times and Gaz.*, March 12, 1881.

On Spastic Spinal Paralysis.

In an article in the *Hospitals-Tidende*, series 2, Band vii. Dr. A. FRIEDENREICH gives a short sketch of the history and symptomatology of this form of disease, and discusses the question, how far it is in itself a disease, and whether

it has a constant course, and a constant pathological basis. He refers to the cases of spastic spinal paralysis with a more or less acute course described by others, especially Veldens and Hench, and relates a case of similar nature which had come under his own observation.

A man aged 39 presented in as marked a form as possible the muscular rigidity, the spastic gait, and the enormously increased tendon-reflexes, characteristic of spastic spinal paralysis. The disease had probably been caused by the influence of alternations of heat and cold; it began with symptoms which were referred to rheumatic fever, and had apparently reached its culminating point when the patient was admitted into the Communal Hospital at Copenhagen. The duration of the illness was about three months and a half, and ended in almost complete recovery. The author then notices the literature treating of the transitional forms between spastic spinal paralysis and other forms of chronic myelitis, and finally speaks of the pathology of the disease. After noticing the *post-mortem* appearances described by Stofella, Westphal, and Charcot, he describes the following case:—

The patient was a man aged 31, who had been somewhat imbecile from infancy. His illness began about half a year before he came under observation, and he presented in the most distinct form the motor disturbances characteristic of the disease. He died about a year and a half after the commencement of his illness. The spinal cord was everywhere softened, being in some parts almost fluid. On minute examination, numerous portions were found, varying from microscopic smallness to the size of a pea, while the tissue was completely broken down and reduced to detritus, while at the circumference of the completely destroyed portions there were generally found parts of which the structure was still recognizable, while networks of the neuroglia were found, if not destroyed, to be filled with an amorphous more or less granular mass, coloured in various shades by carmine, and having scattered roundish nuclei; in other parts there was a quite amorphous exudation, which was coloured rather strongly by carmine, and contained similar nuclei. There was also found, diffused over nearly the whole mass of the spinal cord, but in very varying degrees in different parts, hypertrophy of the interstitial tissue, while the nerve-fibres were partly thrust asunder, and showed here and there distinct swellings, especially of the axis-cylinders. There was no indication of a systematic diffusion of the interstitial changes. The gray substance, especially in the cervical region, showed very scanty ganglion-cells, there being often only a single one in a section of the whole anterior cornua, while the cells of the posterior cornua were on the whole better preserved. Of the existing cells, some were rather small and highly pigmented, while others were of normal size, but very pale, and having an abnormal tendency to a globular shape. The central canal was obliterated throughout; the pia mater was thickened, and very adherent in some parts.

Dr. Friedenreich believes that he is justified in drawing the following conclusions: 1. Spastic spinal paralysis is not an independent disease, but a congeries of symptoms which may occur in various affections of the spinal cord. 2. The phenomena depend on an increase of the tendon-reflexes, in combination with partial preservation of voluntary motor power. 3. Where the phenomena of spastic spinal paralysis occur, they may indicate sclerosis of the lateral columns; but, in the present state of science, they do not prove it. Still less can they prove the existence of an exclusive or only transient affection of the lateral structures of the pyramid.—*London Medical Record*, March 15, 1881.

Œdema of the Right Arytenoid Cartilage.

Dr. E. Martet (*Annales des Malad. de l'Oreille, du Larynx, etc.*, Dec. 1880) relates the case of a sergeant-major who, with a history of great hoarseness and dysphagia of three days' duration, presented a round swelling of the right arytenoid eminence, of the dimensions of a medium-sized grape. Its mucous membrane was stretched, shining, and of a grayish colour. The epiglottis was red and slightly swollen, the remainder of the larynx being normal. The œdematous part was twice touched with a solution of chromic acid (1 in 4), and in three days recovered its normal appearance, the hoarseness and dyspnœa having completely disappeared. The etiology of the affection appears to have been the excessive use of the voice whilst commanding, and the effect of damp cold, in a person of drinking habits. The author also mentions a case of syphilis of the larnyx, accompanied by œdema of the glottis threatening asphyxia, in which the latter symptom was successfully relieved by applications of chromic acid.—*Lond. Med. Record*, April 15, 1881.

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Uræmic Dyspnœa.

M. G. Sée (*Le Practicien*) has published notes of the case of a young woman attacked by urgent dyspnœa, with great oppression and cyanosis. There were a faint systolic apex-murmur, and a few râles over the lungs posteriorly, but nothing sufficient to account for the symptoms. The urine was very albuminous. There was no œdema. She died in a few days. The kidneys were large and red. Mr. Sée lays down the rule that, when a person is attacked with dyspnœa without obvious cause in the thoracic organs, the urine should be examined for albumen. He relates two other cases, in which the dyspnœa simulated spasmodic asthma, and was not readily diagnosed on that account.—*Lond. Med. Record*, April 15, 1881.

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Treatment of Pleurisy in Children.

Dr. J. Lewis Smith, in a paper upon this subject (*Med. Record*, April 9, 1881), speaks of the treatment appropriate to each of the three stages:—

1. The stage which precedes the effusion; 2. The stage of effusion; and 3. The stage of absorption and convalescence.

In the beginning of the disease measures should be adopted which are appropriate for reducing inflammation and limiting exudation. The abstraction of blood in idiopathic pleurisy may be beneficial if judiciously employed, but only one or two or three leeches should be employed in a robust child two, three, or four years old. As a rule, the loss of blood is injurious in all cases of secondary pleurisy, such as follows scarlet fever, etc., and also if the quantity of effusion is great. Emollient and simply irritating poultices are serviceable in the first stage, and he recommends a mixture of *one* part of mustard to *sixteen* of linseed. It should be made very wet, spread thin, applied over the chest in front and behind, covered with oil-silk, and changed twice in twenty-four hours. For children under six or seven months of age, rubbing the chest with camphorated oil, and applying a simple poultice, may be sufficient.

Blistering at this early stage of the disease should not be employed, as it increases the inflammation, and Dr. Smith has seen a case which terminated fatally, in which there was found an increased area of inflammation, corresponding exactly in situation, size, and shape to a blister that had been applied.

The indications for the use of internal remedies in the first stage are to diminish the frequency of the pulse, relieve the pain, and allay the cough.

To a child *three* years old the tincture of aconite may be given in doses of half a drop, and for a child *six* years old in doses of *one* drop, every three hours for

two or three days. In the first stage of primary pleurisy the cardiac sedatives may be used; but digitalis is a safer and better remedy in all other cases, and it also can be used in the second stage.

To a child *two* years old the tincture of digitalis may be given in doses of *one drop every three hours*, and to a child five years old *two* drops with the same interval. An opiate is ordinarily required: Dover's powder, one to three grains, every three hours. Hyoscyamus may be used to relieve the pain and cough; digitalis may be combined with an opiate; and morphine and aconite may be combined.

In secondary pleurisy digitalis is preferable to aconite.

In the *second* stage, unless the effusion is small, measures designed to remove it are required. The propriety of using blisters in this stage is very doubtful.

A relaxed condition of the bowels favours absorption of serous effusion. Diaphoretics do not aid much in the removal of the fluid. Pilocarpine produces a depressing effect which renders it unsafe.

Diuretics and tonics are beneficial. Digitalis, with the acetate of potash, is very serviceable.

℞. Infus. digitalis ℥iv; potass. acetat. ʒj.—M. S. Teaspoonful every three hours, to a child four or five years old.

Bitter tonics are especially useful in this stage, and the acetate of potash may be combined with a decoction of cinchona, with good results. A full amount of nutriment should be taken, with but little fluid. Of course, the suggestion to use a dry diet and diminish the quantity of drink is not applicable to young children. If the appetite and the general health are good, and there are no symptoms due to the presence of the fluid, but little medication is necessary. If there are such symptoms and the fluid does not disappear, the question of surgical interference arises, and the indications for it are the following:—

First.—Oppressed breathing due to the liquid present, whether it be serofibrinous, purulent, or hemorrhagic.

Second.—If there be flat percussion note over the entire affected side, with displacement of the heart, even if there be no dyspnœa, for the latter may occur suddenly.

Third.—Moderate effusion, without material decrease in quantity by absorption after some weeks of treatment. There is danger that catarrhal pneumonia terminating in cheesy pneumonia and tuberculosis may occur in portions of the compressed lung. Besides, the longer the lung is compressed, the slower will it return to normal expansion after the pressure has been removed.

Fourth.—A moderate quantity of fluid co-existing with disease of the opposite lung, or of the lung of the affected side.

Fifth.—Extension of the inflammation to the pericardium. Pericarditis as an extension of the inflammation is not infrequent.

Sixth.—The existence of valvular lesion of the heart.

Seventh.—The presence of pus; empyema.

The operation of thoracentesis should be performed in the eighth intercostal space, on a line perpendicular with the angle of the scapula. The admission of air to the pleural cavity should be carefully avoided. The thickness of the thoracic wall is about half an inch; in emaciated children it is less. Introduction of the canula to the depth of *one inch* is sufficient to pass beyond the exudation and allow the liquid to flow through the canula. The sharp needle should not be used. Washing out the pleural cavity is unnecessary; it is injurious rather than beneficial, except in cases in which the pus is offensive. To empty the pleural cavity and approximate the pleural surfaces is the indication. Dr. Smith thinks there will be a reaction against the removal of a portion of the ribs in cases of empyema.

Idiopathic Enlargement of the Heart.

Under the term enlargement of the heart are generally included three anatomical conditions: first, where the cardiac cavities are increased and the cardiac walls thickened in direct ratio—simple enlargement; second, where the cavities are increased and the walls thickened, but the cavities in higher degree—excentric or dilated enlargement; and, third, where the cavities are actually diminished by the thickening of the walls of the heart—concentric enlargement. Doubt has been thrown on the existence of this last class of cases; and, in some recent remarks on the subject, Professor FRÄNTZEL, of Berlin (*Berl. Klin. Woch.*, Feb. 1881), protests against the terms excentric and concentric cardiac hypertrophy. His distinction of idiopathic enlargement of the heart into dilatation *with* and dilatation *without* hypertrophy is undoubtedly the expression of a difference of first importance clinically. Hypertrophy, speaking broadly, means life; its absence indicates impending death. The conditions of its development are chiefly the vigour of the patient and the gradual development of the resistance producing the enlargement. For the left ventricle, its presence is shown by high tension of the radial arteries, abnormally resistant heart's impulse, and marked or ringing second sound in the aorta; while, for the right ventricle, the only sign is marked or ringing second sound in the pulmonary artery. As to the percussion of the heart, Dr. Fräntzel emphasizes that it is not simply what we find, but the interpretation thereof, that is important. The actual projection outline of the heart, he believes, it is impossible to discover; but should the percussion note over the body of the sternum be duller than over the manubrium, he considers we may diagnose cardiac enlargement to the right, that is, in general, dilatation of the right ventricle. A dulness extending beyond the usual triangle of cardiac dulness indicates, in the absence of disease of the neighbouring organs, an affection of the heart, either fluid in the pericardium or dilatation of a cardiac cavity, according to the position and shape of the dulness. The obverse of this, however, is by no means invariably true. A dulness not extending beyond the above-mentioned triangle is in no way a sure indication of the absence of dilatation. A heart's dulness of normal dimensions in a *wide* thorax, according to Dr. Fräntzel, indicates dilatation; and again, in the barrel-shaped chest, where no heart's dulness ought to be found, the presence of dulness at all indicates a most pronounced dilatation. Such a diagnosis made some time before death may be contradicted, Dr. Fräntzel says, by the necropsy, but this he holds to show simply that dilatation, like hypertrophy, may regress on the causes ceasing to act.

In enumerating the causes of idiopathic enlargement of the heart, Dr. Fräntzel makes special mention of those cases of a single great bodily exertion which, by acute distension of the left ventricle, may cause irreparable cardiac debility, leading to rapid death. This, we may presume, he has observed mostly in persons well on in years. A rush to catch a train may cut half a score of years or more off a comparatively healthy man's life. In discussing obstructions to the circulation in the lungs and kidneys as causes of cardiac enlargement, he seeks to explain the enlargement of the left ventricle in kidney-disease by the obstruction to the renal circulation. He ignores apparently the frequent want of concomitancy between the amount of cardiac enlargement and the degree of renal disease, and refuses the more modern explanation which regards both diseases as local manifestations of a common disease, in all probability acting and reacting on one another. With regard to the large class of cases in which cardiac enlargement is attributed to arterial sclerosis, Dr. Fräntzel agrees with Traube in considering both the arterial sclerosis and the cardiac enlargement to be the results of a common cause, namely, high systemic tension, produced either by gluttony and

drunkenness, or by hard labour. Both classes, he says, benefit much by purgatives, combined in the former with opium, in the latter with absolute rest.—*London Medical Record*, April 15, 1881.

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Pulsus Bigeminus.

Dr. Franz Riegel (*Deutsches Archiv für Klin. Med.*, Feb. 1881) contributes a careful study of two such cases, with numerous graphic tracings. The one case had a systolic, mitral, and tricuspid murmur, with 80 apex-beats per minute, 80 visible undulations of the jugular veins, and 40 radial pulsations. Two apex-beats and jugular undulations were close together, and corresponded to one radial pulsation. The other case had no venous undulation, and had 88 heart-beats, with 44 radial pulsations. These cases, then, were similar to those described by Leyden and others, as instances of independent contraction of one ventricle without the other—the right contracting twice for one systole of the left. But the author shows from sphygmographic evidence that each radial pulsation is followed by a faint wave, imperceptible to touch, and synchronous with the second of the redoubled cardiac impulses. He, therefore, holds that such cases have been erroneously apprehended, and that both ventricles simultaneously contract, although the second is fainter than the first of the double heart-beats, and does not send out a wave strong enough to reach the wrist.—*London Medical Record*, April 15, 1881.

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Treatment of Vomiting in Phthisical Patients.

M. Ferrand, physician to the Hospital Laennec, sums up as follows, in *L' Union Médicale*, the principal indications presented in the vomitings of consumptive patients. The forms of vomiting are: 1. the mechanical vomiting resulting from the excitation of the respiratory nerves, which is sometimes combined with a certain degree of pharyngeal or gastric irritation; 2. gastric vomiting properly so-called; central and bulbar vomiting. These varieties of vomiting differ, not only in their mechanism, but also in their period of appearance, and in the nature of the vomited matters, etc. The mechanical vomiting of phthisical persons, which may be called direct vomiting, occurs at the outset of the disease. It brings up substances which are in a large measure alimentary. The first indication in this case is to calm the cough. This, however, is more easily said than done. Emollients, alkaline, and soothing gargles should be employed. When the irritation of the pharnyx is deep-seated, modifying astringents (alum, tannin, confection of roses, etc.) should be resorted to, and even such remedies as tincture of iodine, nitrate of silver, or ammonia. What are most often employed are the narcotics, the fumes of belladonna, datura, and then anæsthetics and antispasmodics. In this contingency, M. Woillez recommends touching the pharynx with a solution containing one-sixth of bromide of potassium. Gastric vomiting is the most common of digestive disorders in phthisis. It occurs in three-fifths of patients, according to Andral, and in four-fifths, according to Louis. It is the vomiting of the middle period of the disease. These matters are not purely alimentary; they are substances more or less changed by the digestion and fluid. They include also mucus and bile. There are four varieties of gastric vomiting. 1. Vomiting from apepsia. For this, bitter and tonic digestives are to be employed, or, in case of need, an emetic; in default of the latter, chloral, and chloroform in preference to ether; and diastase, because of its peptic qualities, may render real service in these cases. 2. Vomiting from 'hypercrinia,' observed especially in cachectic patients, is combated by absorbents (magnesia, charcoal) or astringent powders (rhatany, calumba). Powdered opium renders great ser-

vice in these conditions. 3. The vomiting from convulsive gastralgia demands the administration of narcotics (opium, chloral, ether). The application of ether-spray to the epigastric region and the back has given good results. 4. Vomiting by gastric irritation. Here the diet must be regulated, the meals must be given at fixed times, and milk-diet prescribed. Alkaline remedies and iodide of potassium in small doses should be given. Opiate blisters should be applied, and in case of failure, revulsive agents (tincture of iodine and blisters) should be used without fear. Central or bulbar vomiting may occur at the outset of the tuberculosis, but usually at an advanced stage. It may be symptomatic of an encephalic irritation, or the effect of bulbar anæmia. The vomited matters consist mostly of mucus and bile. The therapeutic agents at the disposal of the physician are first chloral; then chloroform, opium, and morphia, as well as bromide of potassium, in doses of 1 to 2 grammes (15 to 30 grains) at meal times.—*Lond. Med. Record*, April 15, 1881.

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Treatment of Dysentery with Enemata of Cold Water and finely crushed Ice.

After trying various methods of treatment, MICHAILOW (*Mediz. Obosr.*, vol. xiv. Aug. 1880) has ended at last with the method of enemata of cold water and finely crushed ice, which, he says, has not failed him in a single case for four years. It proved especially successful in the cases of his own children. A short description of two cases follows. Quinine, in the form of Botkin's cholera drops, was administered internally in all cases. (Compound tincture of quinine, Hoffmann's anodyne spirit, of each half an ounce; hydro-chlorate of quinine, one scruple; dilute hydrochloric acid, half a drachm; tincture of opium, half a drachm; peppermint-oil, fifteen drops.) The diet consisted of *bouillon*, milk, and eggs; the drink was cold water and red wine. The enemata were made in the following manner: Ice was crushed to paste; from this mass of ice two glasses were taken for grown-up men for every enema; for children, according to age, beginning with half a glassful, and so on. Water was then added while the ice floated. It was then poured into a glass funnel connected with a long tube. This funnel, fixed on a stand, remained near the sick bed; in other words, the apparatus remained in action until the mass of ice melted and flowed slowly into the rectum, which process lasted about one or one and a half hours. The enemata were employed every two hours, then every three and four hours; finally, twice or three times daily. The author succeeded in all cases in curing the disease in eight or ten days.—*London Med. Record*, March 15, 1881.

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On the Hygienic Treatment of Biliary Calculi.

Professor BOUCHARDAT, who is the leading authority in France on medical dietetics, recommends (*Bull de Thér.*, Aug. 1880), for the treatment of biliary calculi, that the patient should abstain from bread, cereals, eggs, and nitrogenous food in excess; sorrel, tomatoes, strong liquors, shell fish, and cheese; that he should eat ordinary vegetables, preferring those rich in potash to those which are rich in soda. He should also employ an indirect alkaline treatment in the form of malates and citrates, as they are contained in fruits, and drink light red wine diluted with water. He should keep the bowels free by taking every morning a teaspoonful of tartrate of potash and soda and sulphate of soda in equal parts. He should take moderate exercise. The action of the skin should be stimulated by washing, frequent friction, and shampooing by the hand moistened with a few drops of perfumed oil. Every week from one to three baths should be taken, each bath containing 100 grammes of carbonate of potash, 2

grammes of essence of lavender, and 5 grammes of tincture of benzoin, followed by lengthened friction and shampooing. With the object of the expulsion of the calculi, the patient should take, night and morning, one to three *perles* of essence of turpentine, and one or two *perles* of ether. They may be taken with the meals, but in preference between them. To prevent the formation of calculi, the patient should take for ten days, night and morning, before each repast, a pill containing one decigramme (1½ grain) of tartrate of potash and lithia; for ten subsequent days he should take full doses of acetate of potash, with a light aperient night and morning; for ten subsequent days, every day a pint and a half of water containing tartrate of potash and soda. During the spring, on rising in the morning, he should take, for a month, 120 grammes of the juice of lettuce, chicory, and dandelion, equal parts, with five grammes of acetate of potash. He should spend a season at Pougues, Vals, or Vichy.—*London Medical Record*, March 15, 1881.

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Treatment of Psoriasis by Baths of Sublimate.

Having to deal with a case of obstinate psoriasis which defied all their efforts for four months, Dr. Voss and Dr. Sperk (*Gaz. Med. Chir. de Pesth*) hit upon the plan of trying baths of sublimate only. The result may be truly designated as wonderful. After a series of fourteen baths, the skin lost its reddish colour, the epidermis desquamated in large lamellæ, the integuments finally, which were thickened and infiltrated, became supple and elastic. However, during the course of treatment, there were fresh eruptions, but the new patches were less injected, and covered with thinner epidermic scales. Scratching did not bring on any sanguineous exudation. Forty-six baths completed the cure. So remarkable and unexpected a result encouraged Dr. Voss to persevere in the same path; four other cases of inveterate psoriasis treated in the same way obtained a good result in a comparatively short time. The first patient took thirty-two baths, the second forty, and the third forty-eight, and at the time when this report was written, a fourth patient had greatly improved, but was not completely cured. As far as possible the baths were given daily; the water was at a temperature of 27–29 deg., and the patient was required to remain in them from thirty to forty minutes. Dr. Voss has never observed the symptoms which are easily caused by mercurial preparations, such as salivation, swelling of the gums, etc. The advantages of this new treatment may be described under the three heads of (1) rapidity; (2) facility of administration, as baths require but a very short time, and the patient is not obliged to interrupt his daily occupations; and (3) cleanliness. The patient is also able to dispense with topical applications of all sorts, which generally exhale a more or less unpleasant odour.—*London Med. Record*, April 15, 1881.

Surgery.

Multiple Cutaneous Gangrene.

In 1878, Professor Simon first called attention to this comparatively rare disease, which for the most part affects children of various ages, and has a malignant character. Dr. Eichhoff (*Deutsch. Med. Woch.*, Aug. 21, 1880) recently observed a case of this kind at the Breslau clinic for cutaneous and syphilitic diseases. The child, aged 3, was first seen in April, and was then suffering from extensive eczema of the face, breast, and back. Constitutional symptoms were not marked at this time, and the eczema rapidly yielded to appropriate treat-

ment. In May the child was again brought to the clinic, when its general health was found to be much depreciated. The back had been covered with dark-red patches, the largest about the size of a millet-seed. Vesicles soon appeared above these patches, but they rapidly collapsed, leaving ulcers, which soon became gangrenous. The sloughing extended deeply down into the subcutaneous connective tissue. Local and constitutional treatment caused these sloughing ulcers to heal, with cicatrices resembling those of variola. Some time after this a corneal ulcer developed, and, simultaneously with its appearance, the head became affected with gangrenous ulcers. The latter slowly healed, leaving deep cicatrices. A second exacerbation occurred in June, and again a corneal ulcer was one of the complications. The ointment, applied locally, consisted of 15 parts each of camphor and myrrh, with 100 parts of vaseline. The pathogenesis of this affection was said to resemble that of ordinary bed-sores. The appearance of the corneal ulcers was explained by the depreciation of the child's general health and insufficient *vis à tergo*.—*London Medical Record*, March 15, 1881.

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Tar, Soot, and Tobacco Cancer.

The workman in coal-tar and paraffin manufactories suffer very frequently from acute and chronic inflammations of the skin. Volkmann has already described several cases, in which true epithelial cancer was developed from these chronic inflammations, and TILLMANNS (*Deutsche Zeitschr. für Chir.*, Band xiii. Heft 5 and 6) now adds another, ending fatally after numerous operations. This form of cancer, and also chimney-sweepers' cancer, and epithelial cancer of the lip and tongue in inveterate smokers, the author attributes to irritation by the products of imperfect combustion; not, however, saying that this is the actual cause, but simply that it is the exciting cause in those disposed to the development of cancer.—*London Med. Record*, April 15, 1881.

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Secondary Suture of Nerves.

Among the advances in nerve pathology and therapeutics of the last few years, not the least interesting and important have been the practice and results of surgical interference. The operation of nerve-stretching has established itself as a recognized proceeding, and recent experience is rapidly extending its sphere of usefulness, although its *rationale* is involved in considerable obscurity. The primary suture of divided nerves has been practised for several years, and many recorded and unrecorded cases testify to its value. Quite lately, however, the secondary suture of nerves has been practised, and although not with uniform success, yet with most encouraging and, we may add, surprising results. The best test cases are those of union of severed motor nerves, for the return of sensation in parts supplied by a divided and then sutured nerve is open to another explanation than that the nerve trunk has again become capable of conducting sensory impressions. For this reason a case of Langenbeck's, of secondary suture of the musculo-spiral nerve, is very valuable. The patient, a labourer, thirty-one years of age, received a severe contusion of the outer side of the right arm below the middle, which was attended with paralysis of the extensor muscles of the forearm and hand. An abscess subsequently formed and was opened. Two-and-a-half months after the injury, as the paralysis continued, Langenbeck cut down upon the divided nerve, freed its ends, which he found lying two centimetres and a half apart, and united them by a catgut suture. Although there was considerable tension, healing took place by first intention, and nineteen days afterwards the extensors reacted to the induced current, and after a month and a half

considerable active extension movements were possible. Mr. Hulke has brought forward at the Clinical Society a case in which he had united the cut ends of the median nerve nearly six weeks after the injury, and another case in which he practised a similar operation on the ulnar nerve fifteen weeks after division, and in each instance there was distinct evidence of restoration of function. Esmarch and Létiévant have each had a case of suture of the musculo-spiral nerve, the former successful. These and other like cases afford great encouragement not only to unite by suture the cut ends of nerves in recent wounds, but, where necessary, after cicatrization is complete.—*Lancet*, March 19, 1881.

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Suture of Nerves and Tendons.

The case communicated by KRAUSSOLD (*Central. für Chir.*, 1880, No. 47) is of some interest, as showing to what an extent suture of these structures may be employed with benefit. A female patient, melancholic and suicidal, had made a transverse cut on the palmar surface of both forearms, an inch and a half above the left wrist-joint, and two inches and a half above the right. On the left side, the radial and ulnar arteries were divided; the radial and ulnar nerves completely, the median nerve more than three-fourths; also the tendons of the flexor sublimis digitorum entirely, and those of the flexor profundus digitorum partly. On the right side, the radial, ulnar, and interosseous arteries were divided, the radial and median nerves completely, the ulnar nerve two-thirds, also the tendons of the flexor profundus and sublimis, and of the flexor longus pollicis. Both ends of the arteries were ligatured, and the nerves and tendons brought together with sutures. Three weeks after the injury, sensibility was perfectly normal and active, and passive movements were all possible, although still slow and weak. A small defined spot on the ball of the little finger became gangrenous, but otherwise there was no fever or reaction.—*London Med. Record*, April 15, 1881.

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Unilateral Injury of the Spinal Cord.

The patient in this case, reported by SCHULZ (*Cent. für Nerven.*, 1880, No. 15), a male, aged 29 years, received a stab in the back between the spines of the fifth and sixth dorsal vertebræ, a little to the right of the middle line, and about two inches in depth. Soon afterwards there appeared paresis and hyperæsthesia of the right lower limb, anæsthesia (with intact motive power) of the left lower limb, involuntary passage of feces, and retention of urine. Half a year later, the right lower limb showed paresis, with laboured but not ataxic movement. It was also thinner than the left, but presented no difference in colour or temperature. The left limb showed also no ataxy. The muscular sense of the left limb was normal, that of the right diminished. On the right side the skin was hyperæsthetic as high as the seventh dorsal vertebra; above this, as high as the sixth, it was anæsthetic. The sensations of tickling, touch, and pain were all increased on the right; the sensation of temperature was normal. For electric currents, the skin on the right side, both limb and trunk, was very sensitive; while, on the left side, it was normal, or even diminished The left side showed no actual anæsthesia, but a marked analgesia; and, corresponding to the anæsthetic zone of the right side at the sixth dorsal vertebra, was a zone of hyperæsthesia. The tendon-reflexes were normal on the left side, much increased on right. The electric irritability of the nerves and muscles was alike on both sides. —*London Med. Record*, April 15, 1881.

Syphilitic Disease of the Spine.

In the current number of the *Annales de Dermatologie et de Syphiligraphie*, M. FOURNIER reports at great length a very interesting case of Pott's disease caused by syphilis. The patient, a coachman, aged 56, was admitted into the Hôpital St. Louis in July, 1876. The man had had venereal disease in his youth, but no clear history of syphilis could be obtained. He stated that his health had always been good until a few months before admission, when he gradually lost his appetite, and began to suffer from pain in the loins, which afterwards extended to the legs. M. Fournier could not find anything wrong with the spine, but the patient had well-marked syphilitic disease of the testis, gummata of the skin, etc. The testis and the gummata were much benefited by antisyphilitic treatment, but the general health declined, ascites and pleural effusion appeared, and the man died about three months after admission. At the post-mortem examination, ample evidence of syphilis was found in various parts of the body, as well as the following condition of the spine. Antero-posterior section showed the bodies of the third and fourth lumbar vertebræ, in their posterior half, to be infiltrated by a yellow cheesy material. The posterior three-fourths of the intervertebral substance was also destroyed, a cavity containing purulent fluid being left. The intervertebral substance between the fourth and fifth vertebræ was softened, and infiltrated with pus in its posterior half; and there was a cavity in the body of the third lumbar vertebra. Under the microscope, the third, fourth, and fifth lumbar vertebræ presented the typical appearances of condensing osteitis, with purulent and caseous infiltration, exactly as is seen in gummy osteomata. There was also double psoas abscess. The further examination was carried out by M. Hayem, who found a gumma on the fourth lumbar nerve at the point where it left the foramen. In this situation there was also another gummy growth, which appeared to have originated in the periosteum of the corresponding vertebra. Above the gumma the nerve was affected by interstitial neuritis, and there was partial atrophy of the nerve-tubules. The third and fifth lumbar nerves presented only appearances due to irritation and pressure, without decided alteration of the nerve-elements.—*British Med. Journal*, April 2, 1881.

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Transparent Cysts of the Eyelids.

From a careful examination of the transparent cysts which are often found on the free edge of the eyelids, Dr. DESFOSSES (*Archives d'Ophthalmologie*, Dec. 1880) believes them to be formed from modified sudoriparous glands. He is led to this opinion by the form and arrangement of their epithelium, the presence of a layer of unstriped muscle, and their deep attachments, which seem incompatible with an origin from sebaceous glands. The author's paper is illustrated with some well-executed woodcuts of microscopical preparations.—*London Medical Record*, April 15, 1881.

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Fatty Degeneration of the Cornea.

Dr. CUIGNET, of Lille (*Recueil d'Ophthalmologie*, Nov. 1880), describes a form of parenchymatous fatty keratitis, which, he believes, has hitherto escaped the notice of ophthalmologists. He narrates six cases of this affection, which he first noticed in Algiers, but subsequently recognized in Europe. It consists of white calcareous-looking patches on the cornea, which at times, however, may be yellow or gray, and present a smooth lustrous appearance. Their usual seat is the centre of the cornea, over which they gradually extend transversely. They commence by a small granular patch, which becomes gradually larger by the ag-

gregation of neighbouring patches. Their seat is directly under the epithelium in the substance of the cornea propria, within which they slowly increase in size and thickness. The first formed patch is generally the most superficial; those formed later both lie deeper and have a different tint. Vessels, which have their origin in either the external or the internal *cul-de-sac* of the conjunctiva, penetrate these patches, and at times give them a dark red pannus-like appearance. Together with these corneal changes there exist, as a rule, alterations in the ocular, palpebral, and ciliary conjunctiva. The affection is, as a rule, chronic; in one case, however, the author saw it assume decidedly acute symptoms. The most constant and best marked symptom is the impairment of vision, which, if the fatty patch occupy the whole of the pupil, may lead to complete obscuration, the patient having merely perception of light. The seat of the lesions is characteristic, being always near the centre of the cornea, and at a greater or less depth below the epithelium in the cornea proper. It is probable that the disease is incurable, either by treatment or by time, as the author has as yet met with no case in which the deposited matter has been reabsorbed. It remains permanent and innocuous, though in one case iritis was noticed as a complication; and it is probable that other complications, such as a glaucomatous condition, iridochoroiditis, etc., might supervene. Microscopically, the disease consists of a number of minute fatty particles mixed in some cases with crystals of cholestearine, which are gradually and progressively formed in the corneal tissue. Pathologically, it may be compared with the changes which take place within the arteries, and which lead eventually to endarteritis and atheroma. Etiologically, it is probably a manifestation of the strumous diathesis, provoked more immediately by changes in the conjunctiva, which affect the nutrition of the cornea. The differential diagnosis of this affection lies between (1) calcareous or metallic deposits; (2) cretaceous keratitis; (3) and plastic parenchymatous keratitis. The appearance, history, and course, will generally enable it to be recognized. The prognosis is unfavourable, and direct treatment is of little avail. Any causes of irritation in the conjunctiva, lachrymal passages, cilia, etc., should be removed: and if the opacity be over the pupil, iridectomy might be performed, and the opacity itself subsequently tattooed.—*London Med. Record*, April 15, 1881.

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The Pathology of Glaucoma.

At the present time a point has been reached in the discussion of the question of the pathology of glaucoma at which it is worth while to summarize the facts accumulated, and to estimate the value of the theories which have been based upon them.

Glaucoma, whether primary or secondary, and however caused, is the generic name for a state of increased tension of the eyeball, due to excess of the intraocular fluids.

The older writers of the present generation—Donders, Bowman, and Graefe—contented themselves with the explanation that the condition was due to increased secretion of the intraocular fluids, occurring under certain conditions of vascular turgescence.

In 1876 Max Knies announced the discovery that the angle of the anterior chamber is almost invariably found closed in glaucomatous eyes; a fact which derived its significance from the observations of Leber, that the aqueous humour escapes normally by that channel. Max Knies attributed the closure to primary inflammation in the part.

These observations were mainly confirmed by Adolph Weber, who, however, regarded the cause of the closure to be the swelling of the ciliary processes.

Mr. Priestley Smith made an important contribution to the question by establishing, by careful experiments upon the fresh dead eyes of pigs and human subjects, that a very slight excess of pressure in the posterior chamber suffices to drive the ciliary processes forward against the periphery of the iris, and to close the angle of the anterior chamber; he also showed that the fluid of the posterior chamber passes by osmosis through the suspensory ligament, where it stretches between the lens and the ciliary processes, and escapes with the aqueous by the angle of the anterior chamber. It therefore follows that, in the absence of any local obstruction by new growths, inflammatory exudations, hemorrhage, etc., glaucoma may be mechanically caused by any increase of pressure in the posterior chamber.

Mr. Priestley Smith points out that this increase of pressure in the posterior chamber would be produced by any cause tending to diminish the "circumlental space" through which the fluid from the posterior chamber has to pass; and he suggests that this might be effected either by swelling of the ciliary processes alone, or by an increase in the diameter of the lens, or by a combination of these two factors. He has shown, by careful measurements of a series of lenses at various ages, that the diameter increases with the age; and the diameters of the lenses from three cases of primary glaucoma are given to show that they exceed the largest of the healthy series.

Dr. Brailey has contributed several papers to the pathology of glaucoma. He has drawn particular attention to the atrophy of the ciliary muscle, which in health has probably a regulating action over the blood-supply to the ciliary processes; he has also shown that the bloodvessels in the ciliary region are dilated and thin-walled. He attributes glaucoma to (1) increased inflow, due to "a visibly increased blood-supply, and sometimes to inflammation, especially of the ciliary body and iris;" and (2) to obstructed outflow, due to obstruction "in the region of the ligamentum pectinatum, or in some few to the exits from the perichoroidal space;" and to this not very clear statement he adds, "obstruction at the entrance of Schlemm's canal is ascribed, in most cases, to valvular action of the iris, induced either by its position or by the condition of it and the ciliary body."

After a careful consideration of the evidence, we think the following facts may be taken as proved: 1. The intra-ocular fluid has its sole channel of escape by the angle of the anterior chamber; 2. There is a normal current of fluid from the vitreous to the aqueous chambers through the suspensory ligament; 3. A very slight excess of pressure in the posterior chamber causes obstruction to the outflow of fluid by compressing the ciliary processes against the iris, so as to close the angle of the anterior chamber; 4. The angle of the anterior chamber in glaucoma is almost invariably found closed, or traces of its former closure may be observed; 5. The ciliary muscle is frequently atrophied; 6. The bloodvessels of the ciliary region are frequently dilated.

From these facts, we are warranted in concluding that the efficient cause of glaucoma is obstruction to the angle of the anterior chamber, which may be effected by the pressure of new growths, inflammatory exudations, hemorrhage, etc., or by the mechanical action of excess of pressure in the posterior chamber. Increased pressure in the posterior chamber is caused by increased blood-supply, occurring under conditions favouring vascular turgescence, and promoted by dilatation of the vessels and atrophy of the ciliary muscle. Additional observations are wanting to confirm the view that an increase in the diameter of the lens plays an important part in the causation of glaucoma; so far as Mr. Priestley Smith's researches have been carried, there is nothing to contradict the hypothesis; but the number of cases hitherto examined is too small to permit of his conclusions

being accepted at present. Should further investigations confirm the view, the existence of an all-important predisposing factor will have been established.—*British Med. Journal*, March 15, 1881.

Tracheotomy for Diphtheria in Children.

In the recently published report of the Bethany Hospital in Berlin (*Langenbeck's Archiv für Klinische Chirurgie*, vol. xxv. page 815, November, 1880), Dr. KÖRTE, the author, gives the result of the tracheotomy operations during the year 1878. The number was unusually large, even for Berlin, and the disease was of a severe and dangerous form, especially during the latter half of the year. Thus, during the first six months there were 56 operations, with 30.3 per cent. of successful cases, while during the second six months there were 93 operations, with only 18.2 per cent. of successes. The disease was at its worst during the months of October, November, and December, during which period 62 operations were performed, of which only 12.9 per cent. recovered. The children, when admitted into hospital, were mostly very ill, presenting the ominous swelling of the submaxillary glands, slowed respiration, livid aspect, and other appearances of a serious diphtheritic intoxication. The disease was in many cases complicated by scarlet fever or measles. In the latter half of the year comparatively often some of the children presented an eruption like measles; but further observation showed that it was not measles, but rather a purplish rash, which quickly disappeared, was not infectious, and exercised no unfavourable influence on the diphtheria.

No marked differences between croup and diphtheria were remarked in the cases; the two were regarded as different stages of the same disease, and ran one into the other in the most varied manner.

Of the 149 cases, 34 (or 22.8 per cent.) recovered. The greatest mortality occurred among the children under three years of age. There were no cases under one year of age; 29 cases during the second year of life, with 3 recoveries; 27 in the third year, also with 3 recoveries. The percentage of recoveries gradually improved with the increasing age of the *opérés*.

The chief indication for the operation was the dyspnœa, and it was carried out without any regard to age; and was only withheld when extensive lung-disease precluded almost necessarily a successful issue. In the generality of the cases the operation had to be performed at once, owing to the very serious condition of the patients when first seen. For the most part, the trachea was opened below the thyroid isthmus. The after-treatment consisted in inhalations every two or three hours. The trachea was swabbed out with solutions of lactic acid, common salt or alum; and during the three months when the mortality was so high many other substances were tried, such as carbolic acid or thymol solution, etc., without any good results. No local treatment of the trachea was undertaken except swabbing, sucking out the membrane, and keeping the canula clean. As regards other local treatment, the author thinks it is unavailing, or of "extremely small value." The experience of former years teaches that the success after tracheotomy depends less on the treatment than on the nature of the epidemic itself. Thus, in 1877, under an exactly similar mode of treatment, in 89 operations there were 40.4 per cent. of successful cases.

Of the 115 deaths, 79 occurred within the first three days after operation; they were mostly due to descending bronchitis, and in a few cases to collapse. The remaining deaths occurred after more than three days, and were then brought about either by broncho-pneumonia or diphtheria of external parts.

The actual percentage of recoveries in relation to age was as follows: Under

two years of age, 10.3 per cent.; under three years, 11.1; under four years, 23.6; under five years, 27.2; under six years, 38.4; under seven years, 30.0; under eight years, 66.6; under nine years, 50.0; under ten years, 33.3 per cent. Twice the operation was performed on adults for this disease; both died of descending diphtheritis.—*Med. Times and Gazette*, April 9, 1881.

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Inoculation of Syphilis by Razors.

M. Després (*Journal des Connaissances Méd.*, No. 49, 1880) has lately observed two cases of syphilis, in which the initial lesion was on the face, and in which contagion was supposed to have occurred during shaving. Case 1. D., aged 54, of sober habits, having never had any venereal disease, was shaved by a barber on July 11, 1880. On leaving the shop, the man noticed that he had three cuts on his chin. On the 14th he was again shaved, and the sore places bled during the operation. On July 25, the patient (having had nothing to do with women for ten weeks) noticed some swelling about the site of each cut, and applied a poultice. On September 1, he came under the care of M. Després, having been sent to him as a case of cancer. There were at that time three ulcers on the chin, surrounded by some red and rather hard papules. The ulcers were not painful. There was a hard gland beneath the jaw, but no further signs of syphilis about the body. On September 15 a general papular syphilide appeared, and was followed by mucous patches, etc. The second case was that of a man, aged 22, who came to Paris in May, 1880, having had no sexual intercourse for about two months. There was no history of any venereal disease. During his stay in Paris he was shaved by a barber every other day, but did not remember having been cut by the razor. About July 12, a little scab appeared in the furrow between the chin and upper lip. Beneath the scab was a sore with hard borders, and soon afterwards the patient noticed a lump beneath the chin. About August 10 M. Després saw the man, and diagnosed syphilis. On August 19 roseola appeared, and shortly afterwards mucous patches of the throat and anus.—*London Med. Record*, April 15, 1881.

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Destruction of the Chancre as an Abortive Measure in Syphilis.

M. Henri Leloir, in a long and valuable paper (*Annales de Derm. et de Syphil.*, No. 1, 1880, p. 69) reviews and criticizes very fully the different experiments that have been made on the excision and destruction by other means of the initial lesion of syphilis with the view of preventing further development of the disease. The author also adds a very complete bibliography of the subject. The oft-quoted experiments of Auspitz and Unna, Kölliker, and others, are noticed, and their weak points are well brought out; the result being to show how little evidence there is, up to the present time, that general syphilis can be prevented, or even rendered milder in its course, by the destruction of the initial manifestation. M. Leloir concludes his paper with a brief account of a personal interview which he had with Ricord on the subject. This portion of the paper is particularly interesting, as it gives M. Ricord's matured opinion, and shows how entirely he has abandoned his former conviction, viz., that the destruction of the primary sore, within a short period of its existence, could prevent the sequence of general syphilis. Ricord now says "that he has completely abandoned the practice of cauterizing or of excising infecting chancres; that he considers the destruction of the infecting chancre to be absolutely useless at any period; as soon as it appears, before its appearance even, syphilis exists. If the penis were amputated on the appearance of the infecting chancre, syphilis would none the less be produced."—*London Med. Record*, April 15, 1881.

Treatment of Orchitis.

Dr. SABADINI, of Constantinople, following the plan of treatment advocated by Dr. Bourdeaux (*Gaz. des Hôp.*, 1881, No. 18), applied an ointment composed of one part of iodoform and ten parts of vaseline, with success in a case of gonorrhœal orchitis. The pain rapidly ceased, and the swelling disappeared in eight days.—*London Med. Record*, April 15, 1881.

Innominate Aneurism treated by Simultaneous Distal Ligature of the Carotid and Subclavian Arteries, with remarks on the behaviour of a Tendon Ligature.

At a recent meeting of the Royal Medical and Chirurgical Society (*Lancet*, March 26, 1881) a paper was read on a "Case of Innominate Aneurism treated by simultaneous distal ligature of the carotid and subclavian arteries, with remarks on the behaviour of a tendon ligature," by Mr. C. T. DENT. The chief object of this paper is to describe the changes observed in an artery tied with a tendon ligature. The parts were examined ten days after death.

The history of the case was as follows: S. L., an engineer, aged thirty-seven, was admitted with an aneurism of the innominate artery, the first symptoms of which had been noticed about twelve months previously. He improved at first under rest and iodide of potassium, but then as the growth increased the carotid and subclavian arteries were ligatured subcutaneously by Mr. Pollock. For the carotid artery catgut was employed as well as the tendon ligature; the subclavian was secured with a flat tendon ligature only. Both arteries were healthy. The aneurism improved, but the patient had at times very severe attacks of dyspnœa, and died ten days after the operation. A large ulcerated opening was found in the trachea, which did not communicate with the cavity of the aneurism. The carotid artery was dissected out and examined; the following points were observed: A very moderate amount of lymph was effused about the tied artery, though sufficient to bury the knot of the ligature. Well-formed clots were found in the proximal and distal ends of the completely obliterated vessel. No trace of the catgut ligature could be found. Much of the tendon ligature, where not in contact with the artery, was unaltered. The external coat of the artery was not ulcerated. This the author ascribes partly to the fact that tendon, like other animal ligatures, is capable of slight softening and swelling, and partly to the fact that new bloodvessels are early developed in parts lying close to the artery. The inner coats of the artery were ruptured. The tendon ligature, in many of the sections, was in most close connection with the artery, and in these places was infiltrated with small round granulated cells, which in places split up the fibrous material into longitudinal bands. Some of the cells seem to be more elongated than in others. In connection with these cells, and formed by them, were seen new bloodvessels. Here and there it appeared possible in the sections to trace bloodvessels passing across the line of connection, extending into the artery on the one hand, and into the tendon on the other. In conclusion, the author states that though he did not share in the objection urged against catgut ligature, still it seemed that tendon might furnish an animal material which would require less preparation than the carbolic or chromic catgut ligature, and which would probably be more constant in its behaviour.

Mr. BRYANT said the question of the use of flat ligatures involved the important principle whether it were necessary for permanent occlusion that the inner and middle coats should be divided, the point established by Dr. Jones; and he had himself some years ago come to the same conclusion that permanent occlusion

could only be thus obtained. The flat ligature, which only compressed the vessel, would cause simply a temporary occlusion, long enough in some cases to allow of coagulation in an aneurism, but not in the other more difficult cases where ligature had to be resorted to. He compared the action of the flat ligature to that of acupressure, which had been almost abandoned because (in the case of severed arteries) it was frequently followed by secondary hemorrhage, the vessel not being occluded long enough to allow of permanent clotting. Hence those cases of aneurism which could not be cured by other means of compression were not suitable for the application of the flat ligature. A similar mode of temporary obstruction was devised by Mr. Dix of Hull some years ago, consisting in a wire loop placed round the artery and secured over a piece of cork. He thought much evidence was required before the fact of organization of an animal ligature could be admitted. He had examined six or seven weeks after ligature by carbolized or non-carbolized catgut, and although he had seen new vessels around the material he could not believe they had been formed at its expense.

Mr. SAVORY thought it strange if dead matter could be converted directly into living tissue. Several years ago it had been shown that masses of dead tissue introduced into the living tissues became infiltrated with leucocytes; but the inference was that the leucocytes had proceeded from the irritated living tissues, and had absorbed the dead material. In Mr. Dent's case new vessels appear to have formed in the dead substances. The same criticism was applicable to the subject of organization of blood-clot about which so much had been heard lately. John Hunter studied it, and some of his specimens were in the College of Surgeons' Museum; but in his case he dealt with living and not dead clots. It was different in the case of large masses of blood-clot in wounds, masses which must be inert and act as foreign matter; which could not organize, but which might be replaced by new tissue proceeding from the living parts around. If an animal ligature could organize it would be important to know from what source it was prepared, and whether it was old or recent.

Mr. HOLMES, from his own limited experience, had arrived at a different conclusion about the efficacy of animal ligatures to that of Mr. Bryant. He fancied Mr. Barwell had slightly exaggerated the difference in the action of a ligature of flat shape as compared with a round one; for he (Mr. Holmes) had been able on the dead subject to divide the internal and middle coats partially or completely by means of the flat ligature when tied sharply. In the two cases in which he had tried Mr. Barwell's ox-aorta ligature the vessel was permanently occluded, one was a case where he had tied the iliac for rapidly enlarging iliac aneurism with good result; the patient was long under observation (requiring two amputations before his discharge), but the aneurism remained perfectly occluded. In another case, where the patient died in consequence of a debauch two weeks after operation the ligature was found firmly attached to the artery, which was quite closed. In a third case, where two arteries had been tied, they were found occluded by a diaphragm, as in Mr. Treves's case, the ligatures having disappeared. The evidence, so far as it goes, is in favour of the permanence of these ligatures, and that an artery may be safely occluded whether the material used be oxen aorta or tendon. It had been explained that the ligatures did not themselves become organized, but that they disappeared, and were replaced by a ring of fibrous tissue. That such a replacement was not peculiar to healing under antiseptics was shown by this case of Mr. Pollock's and Mr. Dent's, where no antiseptics were used. It seems that these animal ligatures may be invaded by leucocytes and caused to disappear, new tissue taking their place; and this is now allowed by Professor Lister to be what is meant by "organization" of the ligatures. So also in the case of blood-clot, the actual organizing elements and

new vessels being supplied from the surrounding tissues, the walls of the arteries, etc., surrounding the clot. It is quite possible that an animal ligature may excite this formative influence, and its results could not be compared with the effect produced by acupressure.

Mr. BARWELL was not sure that inert matter would not take on vital properties again, and thought that skin-grafting was an instance in point. In a recent case of a large burn, where the "grafts" did not take on the granulating surface, he had found that minute portions of the inner coat of the ox's aorta placed on the surface became converted into a distinct epidermis, others of them melting down into pus. He reminded Mr. Bryant that at the last meeting of the Society he had recorded twelve cases in which perfect occlusion had followed the use of the oxen ligature, and had been able to show the specimens from two of these cases; so that the flat ligature in no way resembled acupressure in its effects. The question as to the need for the division of the inner and middle coats was different now than when Dr. Jones wrote, for at that time ligatures were used which subsequently came away by ulcerating through the outer coats. Now, however, we have ligatures which can be left on the vessels, and which do close arteries permanently. It was essential that the animal ligature, whether tendon or not, should be used first, or should have been dried when fresh, for if putrefaction take place in it its characters are altered and its efficacy impaired.

Dr. B. O'CONNOR said that a short time ago he examined microscopically a mass of lymph lodged at the inner end of a drainage-tube, which had been removed by Mr. Lister. This lymph, which was not in contact with living tissue, contained distinctly small vascular branches. In reply to Mr. Page, he added that the drainage-tube had been *in situ* about four days.

Mr. DENT, in reply, said that the discussion showed that questions were still unsettled which had been thought to be determined by Dr. Jones. He mentioned that in one of Dr. Jones's experiments a septum was formed in the artery precisely like that lately described by Mr. Treves in a vessel tied by the carbolized catgut ligature. In the present case there was microscopical evidence that the inner coat had been ruptured, and that the artery was permanently occluded. In the subclavian artery, where only a tendon ligature was applied, the clots were not so large and well-formed as in the carotid, where two ligatures, one tendon and the other catgut, had been used. As to "organization," one of the specimens showed vascularizing lymph between the two occluded ends of the artery, at a distance from the tendon ligature; and he believed the view taken by Mr. Savory and Mr. Holmes was probably the true one. Mr. Stirling, who had brought these kangaroo tendon ligatures from Australia, had selected them because of the readiness with which they were prepared. Ligatures of whale tendon had also been suggested. Mr. Dent had used them as sutures, and found them too thin and too readily dissolved in the tissues. There was no reason why the same material should not be used as a round rather than a flat ligature; the great advantage claimed for it over catgut being the time it remains unabsorbed.

Treatment of Lupus by Scraping with Volkmann's Sharp Spoon.

The employment of Volkmann's sharp spoon for the treatment of lupus is likely to meet with more and more general acceptance. It presents several advantages over the older methods of dealing with these painful cases, which indeed are for the most part so unsatisfactory, that surgeons are often tempted to abstain altogether from interference of any kind. The principal merits claimed for this way of treating the disease are, in the first place, its extreme simplicity, and in the second, that it is possible to tell with great accuracy when the limits

of the affected parts have been reached. A tolerably sharp spoon should be used, with a short strong handle, and the affected surface should be scraped until all the soft tissue has been completely removed. Nothing is more easy than to tell when healthy structures have been reached, by the sense of resistance they offer; and, unless an unreasonable amount of force be employed, these cannot be materially injured. If an extensive surface has to be scraped, an assistant is necessary, as considerable capillary hemorrhage frequently occurs.

The following method of procedure, according to Mr. RICKMAN J. GODLEE, (*Med. Times and Gazette*, March 19, 1881) will be found effective in checking the bleeding. Several strips of lint having previously been prepared, the surgeon rapidly scrapes a patch, not larger than can easily be controlled by a dossil of lint of a suitable size; this is firmly pressed upon the raw surface, and then another is dealt with in the same way, and a second piece of lint is applied. The process is then repeated until the whole of the affected part has been rendered raw. The pieces of lint are then, one after the other, removed, and if the bleeding has not completely stopped it will be found that a little iodoform powder dusted on the spot quickly arrests it in most cases; but if this should not be the case it is only necessary to continue the pressure for a few minutes longer. A very comfortable and satisfactory dressing for the after-treatment is an ointment formed of iodoform, eucalyptus oil, and vaseline, in the following proportions:—Iodoform, gr. xx.; eucalyptus oil, ʒj.; vaseline, ℥j. This preparation, it may be mentioned, is a very useful one in many forms of ulceration accompanied by a fetid discharge. It is powerfully antiseptic, and at the same time extremely bland, so that it allows healing to go on rapidly beneath it. The ointment may be spread conveniently on thin rag, which adapts itself readily to the inequalities of the face, or, if a larger supply be advisable, it may be put upon the surface of a piece of lint. In all the instances described by Mr. Godlee, the same method of treatment was pursued; besides presenting several features of some little interest, they serve to show how rapidly severe cases of lupus may be, if not cured, at least very much relieved for a considerable length of time, and the disease held very much in check. Some of them also illustrate the fact that when the morbid condition appears to be quiescent, plastic operations may be undertaken without fear that the lupus ulceration will affect the flaps or interfere with their union.

Midwifery and Gynæcology.

Myxoma Fibrosum and Cystic Disease of the Placenta.

Dr. C. BREUS contributes to the *Wiener Medizinische Wochenschrift*, an interesting communication on the former of the above rare conditions. Myxomatous growths are among the commonest of pathological changes which affect the chorion and placenta. They occur in three forms: the *myxoma papillare multiplex*, which is the disease so long known under the name of the "hydatid mole;" another form, in which the morbid change is diffused in a flat, jelly-like layer; and the form which he here more particularly describes—myxoma fibrosum. The name was given to the disease by Virchow. Dr. Breus has seen two cases; he has examined two other specimens put up by Rokitansky; and he refers also to cases described by Clarke, Hildebrandt, and Hodgen. From these sources he gives the following points as being what can be at present stated concerning the disease. It forms tumours which may reach a considerable size—as big as the fist—which are either single or few in number, surrounded by healthy

placental tissue, the boundary between the normal placental structure and the tumour being quite distinct. The tumours have often a kind of capsule of connective tissue, and are sometimes stalked, the pedicle consisting mainly of blood-vessels. The surface is uneven or ragged. On section, they have a fleshy, grayish-red appearance, and from their aspect have been repeatedly described as sarcoma. They are elastic in consistence. Microscopic examination shows them to consist of myxomatous tissue richly supplied with bloodvessels, and which is divided into small lobules by thick bands of connective tissue.

As to their causation nothing is known. Hildebrandt supposes them due to localized disturbances of the placental circulation. Dr. Breus is unable to accept this view, because he thinks that in an organ the circulatory system of which is so complex as that of the placenta, such disturbances must be very frequent, and the lesions so produced must be far commoner than is myxomatous change. These tumours do not exert any prejudicial influence on the course of labour, the most that can be said being that it is possible they may determine its premature commencement. They do not interfere with the life or development of the fœtus. During the detachment of the placenta they not unfrequently get separated from it, and so expelled separately. Should the placenta be adherent, the presence of such a tumour might surprise and puzzle the accoucheur who had to remove the placenta.

We may, in commenting upon this subject, call attention to the researches of FENOMENOW (*Archiv für Gynäkologie*) in the same field. He has minutely examined two placentæ, in which the most conspicuous morbid change was the presence of cysts. In one of them the whole fœtal surface was studded with cysts, in size from that of a hemp-seed to a hazel-nut, with bright, translucent contents. The cysts were about twenty in number, and were irregularly arranged. In the other case there was one pediculated cyst as big as a large orange, projecting from the fœtal surface; and beside this, that surface presented several solid nodules, some as big as a pigeon's egg. These nodules, examined microscopically, showed a structure like that in Dr. Breus's case—myxoma fibrosum. Before discussing the origin of the cysts in his two cases, Dr. Fenomenow gives some account of the literature of the subject. The kinds of placental cysts that have been described are—(1) gelatinous cysts, seated between the chorion and amnion, the credit of recognizing which is due to Millet; (2) perivascular cysts; (3) blood-cysts, springing from the placental sinuses, which have been described by Bustamonte; (4) cysts of the villi themselves, the results of degeneration; (5) hemorrhagic or apoplectic cysts—names given by Hegar and Mayer and by Hennig, respectively; (6) amnion-cysts, arising, according to Ahlfeld, from adhesions between the two layers of the amnion; and (7) colloid cysts described by Grazeansky. It is of course quite possible that some or all of these theories may be wrong; but the subject has been so little investigated, that whatever errors there may be in the observations, or the interpretations thereof, by the workers quoted, have not yet been corrected. Meantime, we must accept these statements as expressing all that we at present know, and as provisionally true. Dr. Fenomenow carefully considers the origin of the cysts in his own cases. In the first case he believes the cysts not to have been formed out of pre-existing cavities or canals, but to have originated in irritative processes in the tissue of the villi, leading to adhesion at places of the villi to one another, and the formation of closed cavities between them; then fluid had accumulated in these cavities, and distended them into conspicuous cysts. The cysts are therefore heterologous. As to the reason of the supposed irritative process, he can say nothing. The collection of fluid in the second case he attributes to mucous degeneration of the placental tissue, together with extravasation, the result of vascular degene-

ration. He can offer no suggestion as to the cause of this pathological process. We may add that lithographic plates illustrate Dr. Fenomenow's paper and increase its value.—*Med. Times and Gazette*, April 9, 1881.

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Tupelo Tents for Dilating the Uterus.

A recent clinical lecture of Volkmann's collection, by Dr. LEOPOLD LANDAU (*Sammlung Klinischer Vorträge*, No. 187), is devoted to the consideration of the methods of dilating the cervix uteri. That which will be most novel to English readers is his strong recommendation of the tupelo tent. Sponge and laminaria tents are of course well known here; and of the later methods of rapid dilatation introduced by Fritsch and by Schroeder, Dr. Landau expresses disapproval. Tupelo tents are made from the root and stem of the *Nyssa aquatica*. Dr. Landau says that they expand more uniformly than laminaria tents, and that their co-efficient of expansion is somewhat greater than that of any other tent. In expanding they produce the same softening and infiltration of the uterine tissue as other tents. They are almost entirely free from any tendency to produce septic infection, and therefore antiseptic precautions need not be rigidly carried out when these tents are used. To effect dilatation, when one tent has been put in, it may be removed in three or four hours, when it will have expanded enough to allow a larger tent, or more than one, to be inserted. In this way the cavity of the uterus may be made accessible to the finger within twenty-four hours. Dr. Landau has used these tents in this manner for two years, and has never seen any disadvantageous result from their use.—*Med. Times and Gazette*, March 19, 1881.

Medical Jurisprudence and Toxicology.

On a Probable Cause of Lead Colic.

At a late meeting of the Royal Medical and Chirurgical Society (*Lancet*, March 12, 1881), Dr. C. HILTON FAGGE read a paper upon this subject. After referring to the fact that in certain observations on the nature of the lead line in the gums, published in the fifty-ninth volume of the Transactions, he had been anticipated by a French physician, M. Cras; the author remarked that both he and M. Cras had on theoretical grounds suggested that it was almost certain that sulphide of lead must be formed in the intestinal mucous membrane of persons exposed to the action of the metal, by the reaction of the sulphuretted hydrogen of the intestinal gases upon a soluble combination of lead circulating in the capillaries. The author had since had few opportunities of examining the bowel in patients who had had symptoms of lead-poisoning. In two instances the results were negative. In the other two instances a marked and extensive blackening of the interior of the bowel was observed. Dr. Stevenson was kind enough to make analysis of the discoloured contents of intestine, and to compare them with analysis of healthy pieces of intestine from the same patients, and he proved that there was an excess of lead in the blackened part, amounting in one case to as much as 320 times the quantity present in the non-coloured part.

Dr. DOUGLAS POWELL asked whether any microscopical examination of the intestine was made, as the precise seat of the deposition of lead might explain whether it occurred by direct action of the sulphuretted hydrogen on the lead in the bowels, or on the lead on the way to being eliminated by the large intestine after its absorption higher up. The treatment of lead colic by iodide of potas-

sium was generally followed up by purgatives, in the view that the lead is so eliminated.

Dr. R. THOMPSON said it was important to remember there were two ways in which the intestine might be blackened by lead. It may be that the metal is deposited in the mucous membrane from the blood, and converted into the sulphide by the intestinal gases, or that, like bismuth, it is acted upon by these gases before absorption. He had found in those who took bismuth that the mucous membrane of the large intestine was blackened by the sulphide of bismuth, which by means of chromic acid could be converted into the yellow chromate. He referred to Dr. de Mussy's observations on the Claremont cases treated by alkaline sulphide baths. The skin was blackened—a condition which Dr. Thompson had found in another case similarly treated to be due to the deposit of sulphide of copper, from the action of the solution in the metal of the bath.

Dr. POWELL added that Dr. Fagge's views as to the cause of the blue line on the gums were confirmed in a very marked case of lead paralysis without any such blue line being present. This absence of the blue line was associated in the case with a complete freedom from tartar on the teeth. It was well known also that no blue line appears on edentulous gums.

Dr. CAVAFY asked Dr. Fagge whether he regarded the deposition of the sulphide of lead in the intestine as the cause of lead colic, and, if so, did he think it acted on the nerves of the intestines. *Prima facie* there was no reason, if this were the case, why the deposition of the salt on the gum should not give rise to toothache.

Dr. A. W. BARCLAY pointed out that lead was undoubtedly absorbed into the blood, and its action was not merely local like that of bismuth. Was the lead only partially absorbed, or was it eliminated again into the alimentary canal, as Dr. Powell stated. The presence of the discoloration in the large intestine was due to the larger amount of sulphuretted hydrogen in that portion of the bowel. He presumed that lead colic had its seat in the small intestine, so that it could not be attributed to the existence of the deposit.

Dr. FAGGE, in reply, said that a microscopical examination was made in the first case, and showed the black granules to be deposited around the capillaries of the villi, just as on the gums. Dr. Thompson's remarks as to the discoloration of the intestine from bismuth were suggestive. Bismuth blackened the tongue, and Brinton suggested that it also produced a blue line on the gums, but this Dr. Fagge had not been able to confirm. The lead line was due to the deposition of the metal in the tissue of the gums, and its conversion into sulphide by the tartar. It was by following out the line of inquiry thus suggested that he had sought for discoloration of the intestinal mucous membrane, where a much greater amount of sulphuretted hydrogen would be in operation than in the gums. There was no reason to suppose that any large quantity of lead would escape absorption. He did not adduce the fact of deposition as explanatory of lead colic, which, however, had, he thought, its seat in the large intestine.

MEDICAL NEWS.

The Law of Copyright as Applied to Oral Lectures.

In the early days of the *Lancet* its enterprise among other forms took the shape of reporting the lectures of the eminent London teachers, whether they were willing or no, and in some cases even notwithstanding the express prohibition of some of them. Sir Astley Cooper even went so far as to lecture in the dark in the illusory expectation of thereby preventing reports being made. At last in 1824, having failed in every other way, Mr. Abernethy determined to invoke the aid of the law in the maintenance of his ownership of his lectures, and he sought to restrain by injunction the publication of his oral lectures delivered at St. Bartholomew's Hospital, on the ground of his absolute right of property in his lectures and his right to reap the pecuniary profits of his own ingenuity and labour. In granting the injunction the Lord Chancellor (Lord Eldon) expressed himself as "clearly of the opinion that when persons were admitted, as pupils or otherwise, to hear these lectures, although they were orally delivered, and although the parties might go to the extent, if they were able to do so, of putting down the whole by means of short-hand, yet they could only do that for the purposes of their own information, and could not publish for profit that which they had not obtained the right of selling." The *Lancet* immediately appealed, and announced that the contest had not been terminated and should not be until the highest tribunal in the country (the House of Lords) had decreed that the publication of these lectures was illegal.

In the next stage of legal proceedings it was stated to the Court of Chancery by the counsel for the *Lancet* that he was now given to understand that the motion for the dissolution of the injunction was not intended to be opposed and he therefore submitted that he was entitled to have the injunction dissolved, and it was so ordered. In commenting on this "triumph" by default, the *Lancet* says, "We do not claim the right of publishing the lectures of any individuals, except those who by an infamous by-law have procured for themselves a monopoly of lecturing to students in surgery,"—alluding to a law of the Court of Examiners, by which attendance upon lectures at certain hospitals (St. Bartholomew's among the number) was requisite to obtain a license to practise, and by which it was claimed Mr. Abernethy became a "public functionary for a public purpose."

Such is the history in brief of one of the most famous law suits in the

history of medical journalism, and as the injunction on the *Lancet* was finally dissolved by Mr. Abernethy's failure to continue the litigation, it is easy to understand how in recent times it has become a common belief among the ill-informed that the law upheld the *Lancet*, and that an author had no legal rights over his oral lectures which a journal was bound to respect; indeed, not long since one of our contemporaries gave editorial notice to very much this effect.

In this country the decisions of our courts have been in conformity with that of Lord Eldon in the *Lancet* case, and while a lecturer cannot lay claim to any vested right in the ideas he communicates, the law holds that the words and sentences in which they are clothed belong to him. Mr. Justice McLean has decided that "lectures, oral or written, cannot be published without the consent of the author, though taken down when delivered; the person taking them down has a right to their use, but he may not print them," and that "any use of such lectures which should operate injuriously to the lecturer would be a fraud upon him for which the law would give him redress." And Mr. Justice Van Brunt has decided that "the delivery of a lecture to a public audience does not work a forfeiture of the common law right of property in a lecture."

Attention has been recently called to the law of copyright as applied to oral lectures by a suit which was brought by Messrs. G. P. Putnam's Sons, of New York, against Dr. Leo T. Meyer, to restrain him from selling his report of the anatomical lectures of Dr. Darling, they having published the lectures by arrangement with Dr. Darling. A few weeks ago Mr. Justice Van Voorst, of the New York Supreme Court, in granting the injunction, emphatically declared that the point "that lecturers may interdict the publication of their lectures has been distinctly decided."

So much for the law of the subject—of the morals it seems superfluous to speak—and it affords us no little satisfaction to say that the MEDICAL NEWS AND ABSTRACT has always acted in accordance with the only view which has over and again received judicial sanction, and that the clinical lectures which have appeared in our columns have always been authorized publications made by, or with the express permission of, their authors, and have been revised by them, and the right of ownership acknowledged by the tender of pecuniary compensation.

The decision in the case of Putnam *v.* Meyer will be gladly received by the many clinical lecturers in our hospitals and medical colleges, and will stimulate them to speedily put a stop to the unauthorized publications of their lectures which, owing to the frequent gross inaccuracies they contain, have proved as great a fraud upon the reader as they were upon the rights and reputation of the author.

American Medical Association.

The Thirty-second Annual Meeting of the Association was well attended, and the proceedings were harmonious. The President's address and the addresses of the chairmen of Sections were carefully prepared, were worthy of the occasion, and were well received. In the Sections the papers were meagre, notwithstanding the efforts of the chairmen to procure valuable contributions, and elicited no notable discussions. In the business sessions, interest centred around the amendment of the Code of Ethics, and the proposition to substitute a weekly medical journal for the annual volume of Transactions. Dr. Billings's substitute for the amendment to the Code was a happy conception, which to a large extent met the arguments of both sides, and at the same time filled the requirements of the case as fully as was probably practicable under any proposition. The action of the Association in relegating for further consideration the question of publishing a weekly journal was at least prudent. The publication of such a periodical involves a much larger annual outlay than it was apparent the Association had at its command, and therefore, with more wisdom than such large bodies usually display in business matters, it wisely deferred action until it had received more accurate information upon which to form a sound judgment than the committee had been able to lay before it. The selection of a President for the ensuing year was happy, and was a proper recognition of the value of Dr. Woodward's labours, as well as those of the Army Medical Staff, in behalf of medical science.

During the sessions of the Association the *Virginia Medical Monthly* issued a daily edition, giving a full and accurate report of the proceedings of the day before. To it we are indebted for aid in the preparation of our report of the proceedings of the Association.

To the local committee of arrangements much credit is due for the careful and painstaking way in which they successfully managed the details of the business and pleasure of the Association. The well-known reputation for hospitality which Richmond has always enjoyed was more than maintained, and this year's meeting will long be memorable to those who participated in it for the unbounded hospitality, both public and private, which was extended to the delegates by the physicians and citizens of Richmond.

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Proceedings of the American Medical Association, Richmond, Va., May 3, 4, 5, and 6, 1881.—The American Medical Association convened in thirty-second annual session at Mozart Hall, in the city of Richmond, Va., on Tuesday, May 3d, at 11 A. M., John T. Hodgen, M.D., of St. Louis, President, in the chair. The session was opened with prayer by the Rt. Rev. Bishop Keane, and the Association was welcomed to Richmond by Dr. Frank Cunningham, of Richmond, Chairman of the Committee of Arrangements, and by the Hon. F. W. M. Holliday, Governor of Virginia. The President then delivered his Annual

Address, which was an earnest and able advocacy of conservative surgery, and was received by the Association with marked evidence of approval.

Section I. (*Practice of Medicine*, Dr. William Pepper, of Philadelphia, Chairman.) In a paper upon "Bloodletting as a Therapeutic Measure in Pneumonia," Dr. W. C. Wile, of Sandy Hook, Conn., advocated the free use of the lancet, in which he was supported by Drs. N. S. Davis, of Chicago; Post, of New York; Quimby, of Jersey City; Whitney, of New York; and S. D. Gross, of Philadelphia. Drs. J. J. Lynch, of Baltimore; Whittaker, of Cincinnati; Octerlony, of Louisville; and Lester, of Detroit, took opposite ground.

Section II. (*Obstetrics and Diseases of Women*, Dr. James R. Chadwick, of Boston, Chairman.) Dr. Paul F. Mundé, of New York, made some "Practical Remarks on the Use of Pessaries," and the subject was discussed by Drs. Beverly Cole, of San Francisco; Albert H. Smith, of Philadelphia; H. P. C. Wilson, of Baltimore; Maughs, of St. Louis; and Quimby, of Jersey City. Dr. Wilson dwelt upon the importance of ascertaining whether the uterus can be lifted up before introducing any pessary, and expressed his disapproval of stem pessaries.

Section III. (*Surgery*, Dr. Hunter McGuire, of Richmond, Chairman.) Dr. J. H. Warren, of Boston, read a paper "On the Use of Various New Surgical Instruments;" and Dr. Wm. A. Byrd, of Quincy, Ill., reported "A Case of Ulceration and Perforation of the Appendix Vermiformis, with Remarks upon Abdominal Section in cases of Perforation of the Bowel," in which he advocated operative interference in inflammatory affections around the cæcum. Dr. J. E. Reeves, of Wheeling, presented from Dr. B. W. Allen, of Wheeling, a report of a case of nephritic calculus weighing 480 grains, which had caused a pyonephrosis with a large fluctuating tumour on the hypochondrium. By aspiration 18 pounds of sero-purulent fluid were evacuated, with temporary relief. The patient died, and on autopsy the left kidney was found to have been converted into a sac, 15 inches long, 12 inches wide, and 6 inches deep, containing ten pounds of purulent fluid, together with the above-mentioned calculus.

Section IV. (*State Medicine.*) In the absence of the chairman, Dr. J. S. Reeve, of Wisconsin, this section adjourned.

Section V. (*Ophthalmology, Otology, and Laryngology*, Dr. D. S. Reynolds, of Kentucky, Chairman.) Dr. G. T. Stevens, of Albany, described a "Registering Perimeter." Dr. W. C. Jarvis read a paper on "Nasal Catarrh, with Hypertrophy," and advised the removal of the hypertrophied tissue by the écraseur, and in the case of sessile growths with the aid of transfixion needles. Dr. J. J. Chisolm, of Baltimore, read a paper on the "Treatment of Conical Cornea," in which he advocated puncture of the cornea with a red-hot needle, as advised by some French surgeons.

Section VI. (*Diseases of Children*, Dr. A. Jacobi, of New York, Chairman.) "The Importance of Physical Measurements in Children" was the title of a paper by Dr. H. P. Bowditch, of Boston. He said that it seemed probable that the accurate determination of the normal rate of growth in children will not only throw light upon the nature of the diseases to which childhood is subject, but will also guide us in the application of therapeutic measures. Dr. Bowditch exhibited a chart representing the case of a child, between two and three years old, in which careful and systematic weekly weighing showed, first, the approach, by some weeks, of a chronic disturbance of nutrition, represented by enlarged cervical glands and clay-coloured stools; and, second, after recovery, the approach of an attack of measles, the "danger signal" of progressive loss of weight preceding the eruption by at least a week.

Dr. Lee, of Baltimore, remarked that he had paid especial attention to this subject, and had noticed that a female child could lose more in proportion to its

weight, without detriment to its health, than a male child of the same age. He also said that if the loss of weight preceding an eruptive disease was excessive, the case was so much more grave in its prognosis, and that this loss of weight preceded this eruption by from four to five days.

Dr. Busey, of Washington, read a paper on "The Relation of Meterological Conditions to the Diarrhœal Diseases of Children;" and Dr. James C. White, of Boston, forwarded a paper entitled "Some of the Causes of Infantile Eczema, and the Importance of Mechanical Restraint in its Treatment." He described the many and varied external influences which immediately affect the skin of the new-born, as being a common cause of eczema, and laid especial stress on the fact that heat was the more usual cause of the disease than cold. These external influences, however, furnish but a small proportion of all the cases of the disease which occur at this period of life, although by far the great part of those concerning the etiology of which we have any posititive knowledge. During the last twelve years he had treated at the Massachusetts General Hospital 5000 cases of eczema, of which 1770 occurred in children of ten years of age and under, and of which the largest proportion, viz., 569 cases, was in the first year of life. Eliminating the operation of the causes directly acting upon the skin from without, above mentioned, and a few other extraneous agencies, the parasitic chiefly, Dr. White did not hesitate to say that he knew nothing whatever of the causes of the disease in the remainder; also, that as far as his experience went, eczema affected all classes of society alike, occurred at all seasons of the year, came in children of all degrees of health, in the perfectly sound as frequently as in the feeble; that it had no necessary connection with any other disease of childhood; that it showed itself in an equal proportion in bottle babies and those reared at the breast, and was independent of diet; also, that if there were other assigned causes, he would here say that his observation gave him no justification for believing any of them.

After speaking of the extreme suffering which the little patients undergo, Dr. White said that the prime factor of the treatment was the prevention of scratching, and he advocated controlling the child's movements by a system of swathing in a pillow-case, by which the same chances of success in the therapeutics of infantile eczema is given, as exist in the adult. He said that when the strait-jacket treatment is carried out, the child soon becomes used to the confinement, and a wonderful improvement takes place in the disease.

Dr. L. Duncan Bulkley, of New York, believed that Dr. White had laid far too much stress upon local causes, and had ignored entirely the influence of internal, general, dietary, and hygienic causes. Internal treatment he believed to be to a certain degree absolutely necessary, and without it physical restraint would be comparatively ineffective. He advocated the internal use of small purgative doses of calomel every other day, and a mild alkali, as acetate of potassa in liquor ammoniæ acetatis, with a little nitre, and perhaps aconite. As regards mechanical restraint, if the itching is relieved, it is not required; and if it is not relieved, such confinement is torture beyond description. Diachylon ointment Dr. Bulkley believed to be very inefficient in arresting itching. Tar in some form was far more efficacious; indeed, he had little to desire in the way of an application to infantile eczema beyond the following ointment: ℞. Unguenti picis, ℥j; zinc oxid, ℥ij; unguenti aquæ rosæ, ℥iij. Mix. This should be very carefully prepared and very thoroughly and abundantly applied. If it appears stimulating, less of the tar ointment may be used. He laid great stress upon employing the rose ointment and not simple cerate, or lard, or vaseline, or petroleum. The ointment should be made of a consistency to spread easily and yet not to all melt away after application.

Dr. Bulkley was very positive in the directions given in regard to the use of water to eczematous surfaces in children: they were only to be washed according to direction, and that very rarely, often only at intervals of several days; moreover, it was all important that the protective ointment should be replaced *immediately* after the surface is dried, and renewed sufficiently often to keep the parts completely protected, even twenty or more times the first day. On covered parts the ointment may be thickly spread on the woolly side of sheet lint and bound on. Among the hundreds of cases he had never covered the face with a mask, and had rarely been obliged to restrain the infant much after the first day or so. The only restraint he had ever practised, was putting on muslin mittens, tied around the waist, and then tapes from these passed behind the back or beneath one leg.

Dr. D. H. Goodwillie, of New York, read a paper on "Thumb-sucking."

Second Day. General meeting. The Committee on Nominations was announced, and the Association then proceeded to the consideration of the proposed Amendment to the Code of Ethics, Art. I., paragraph 1st, by adding "and hence it is considered derogatory to the interests of the public and honour of the profession, for any physician or teacher to aid in any way the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

Dr. Marcy, of Massachusetts, moved to lay the amendment on the table. Lost. Dr. E. S. Dunster, of the University of Michigan, then addressed the Association in a speech carefully prepared, in opposition to the amendment. Dr. N. S. Davis, of Chicago, moved that the amendment be made the special order after the addresses on Thursday. Dr. Howard, of Maryland, moved as a substitute, that the matter be indefinitely postponed. The substitute was lost, and the motion of Dr. Davis adopted.

Dr. William Pepper, of Philadelphia, delivered the Address in Medicine which was devoted to the consideration of the great importance of local lesions, and especially catarrhal inflammation of mucous membranes, as forming the essential cause of many apparently obscure diseases, and also as adding greatly to the danger of many diseases which are now regarded as due exclusively to the presence of some specific poison in the blood.

Dr. James R. Chadwick, of Boston, delivered the Address on Obstetrics and Gynæcology, in which he directed attention to a statistical consideration of the literature of his specialty during the past five years.

Dr. John H. Packard, of Philadelphia, from the Committee on Journalizing Transactions, presented an elaborate and carefully prepared report upon the subject which closed with the proposal of the following resolution.

Resolved, That the President be authorized to appoint a committee of five to digest and report in detail as soon as practicable upon the time, place, and terms of the publication of such a journal, to elect an editor, fix his salary, and to arrange all other necessary details.

Dr. N. S. Davis, of Chicago, moved to strike out so much of the resolution as related to the election of an editor. Adopted.

Dr. Marcy, of Mass., moved that as many of the previous committee as were present at the meeting, be members of the new committee. Adopted.

Dr. Toner, of Washington, moved to add the Secretary and Treasurer to the Committee. Adopted.

Dr. Toner, of Washington, offered a resolution instructing the Secretary to publish with the forthcoming report of the Transactions of the Association an index of all the previous volumes. Adopted.

Dr. Toner presented the report of the Committee on Necrology.

Section I. (*Practice of Medicine.*) Dr. D. W. Prentiss, of Washington, presented a paper entitled "Is croupous pneumonia a zymotic disease?" and Dr. W. C. Dabney, of Charlottesville, Va., a paper on the "Nature and Treatment of Pneumonia." Dr. L. Duncan Bulkley, of New York, read an elaborate paper on "The Diet and Hygiene of Eczema."

Section II. (*Obstetrics and Diseases of Women.*) Dr. H. P. C. Wilson, of Baltimore, exhibited some instruments, which gave rise to a spirited discussion upon instrumental interference. He showed some dilators by the use of which he is enabled to dispense with the use of tents. Dr. Albert H. Smith, of Philadelphia, expressed a preference for the tents: he said, the instruments make small lesions about the cervical canal, hence the dangers of septicæmia in careless hands. The tents, he thinks, are safer, if not withdrawn before the end of forty-eight hours instead of twenty-four, as is usually done. The tents ought to be cylindrical (not conical), and should be rubbed over with moist soap and dipped in a solution of salicylic acid before being introduced.

Section III. (*Surgery and Anatomy.*) Dr. C. F. Stillman, of New York, described some "new mechanical appliances," and Dr. Alfred C. Post, of New York, read a paper on "Plastic Operations on the Face." Dr. D. H. Goodwillie, of New York, also read a paper on the "Treatment of Arthritis of the Temporo-maxillary Articulation," by means of an apparatus to relieve the joint of pressure on the inflamed articular surfaces. It is made as follows: an impression of the teeth of either jaw is taken and an interdental splint made, the posterior part of which is raised a little for the purpose of a fulcrum, on which the back tooth of the opposite jaw rests. Another impression is taken of the chin, and a rubber splint is made to fit it. A skull-cap is next made to fit the head closely, with elastic bands on each side passing down from it and fastened to the chin-splint. The interdental splint is placed in position in the mouth, and the back teeth of the jaw closed on the fulcrum of the interdental splint; then, when pressure is made on the chin by tightening the elastic bands connecting the skull-cap with the chin-splint, the joint is relieved from pressure. Dr. Goodwillie reported some successful cases thus treated.

Dr. B. A. Watson, of Jersey City, N. J., read an elaborate paper, the title of which was "An Experimental and Clinical Inquiry into the Etiology and Distinctive Peculiarities of Traumatic Fever."

Section IV. (*State Medicine.*) In the absence of the Chairman, Dr. J. S. Billings, U. S. A., was elected chairman *pro tem.*

Dr. J. L. Cabell, of the University of Virginia, read an interesting paper on "The National Board of Health and the International Sanitary Conference of 1881." He reported that there was good reason for hoping that an international agreement may be arrived at between the States most frequently threatened with epidemic invasions. And, aside from this, the degree of attention which as a result of the deliberations of the Conference has been given to the subject of maritime sanitary police, cannot be without fruit in securing greater cleanliness, better ventilation of ships sailing on the high seas; and in general, an improved sanitary condition of these important instruments of commerce, which become so often the carriers of the most deadly contagion, from the failure to use such precautions as sanitary science suggested, and as it is hoped will now be enforced among the maritime powers of the world.

Dr. C. F. Folsom, of Boston, read a paper on the "relation of the State to the insane." He argued in favor of the establishment of State Lunacy Boards. Among the points made were, first of all, that a lunacy board should embrace men with a thorough knowledge of insanity and its treatment. The chief duties of this board should be to secure proper care for the insane in private dwell-

ings, where they are very much liable to neglect. Secondly, they should examine the commitment papers, and otherwise looking into the cases, so as to be able to tell whether the lunatic should be retained for care or be discharged.

Section V. (*Ophthalmology, Otology, and Laryngology.*) Dr. Carl Seiler, of Philadelphia, read a paper upon "Syphilitic Laryngitis," and Dr. Chisolm one on a form of tinnitus induced by a rhythmical contraction of the tensor tympani muscle. Dr. Eugene Smith, of Detroit, presented a report of a successful operation for blepharoplasty, in which the graft was taken from the arm without any pedicle.

Section VI. (*Diseases of Children.*) Dr. R. J. Nunn, of Savannah, forwarded a paper on the "Treatment of Diphtheria." Dr. E. H. Bradford presented an article on "resection of the tarsus in severe congenital club-foot."

Third Day. General meeting. On motion of Dr. S. D. Gross, of Philadelphia, the By-laws were amended so as to establish an additional section to be known as the Section of Dentistry. A motion to suspend the rules so that the section might be organized immediately was objected to, and therefore could not be considered.

The President announced as the Committee on Journalizing the Transactions, Drs. J. H. Packard, N. S. Davis, J. S. Billings, L. A. Sayre, and R. B. Cole, with the Treasurer and Secretary.

Dr. Hunter McGuire, of Richmond, delivered the address in surgery, and chose for his subject "operative interference in gunshot wounds of the peritoneum," which he advocated as exchanging an almost certain prospect of death for at least a good chance of recovery. He urged operative interference in gunshot penetrating wounds of the peritoneum with intestinal injury, in penetrating wounds of the peritoneum with any visceral lesion, and in similar cases without visceral injury. The wounds in the abdominal walls should be enlarged, or the linea alba opened freely enough to allow a thorough inspection of the injured parts. Hemorrhage should be arrested. If intestinal wounds exist, they should be closed with animal ligatures, trimming their edges first if they are lacerated and ragged. Blood and all other extraneous matter should be carefully removed, and then provision made for drainage. If the wound of entrance is dependent, drainage may be secured by keeping this open. If the wound is a perforating one, and the aperture of exit dependent, the patency of this should be maintained, and, if necessary, a drainage tube of glass or other material introduced. If there is no wound of exit, and the wound of entrance is not dependent, then a dependent counter-opening should be made and kept open with a drainage tube. If it is urged that the means suggested are desperate, it can be said in reply that the evil is desperate enough to justify the means.

In the absence of the address of the chairman of the Section on State Medicine, Dr. J. S. Billings, U. S. A., occupied the allotted time with some interesting remarks on some of the results of the tenth census as regards mortality statistics.

Dr. N. S. Davis, of Chicago, from the Committee on Clinical Observations and Records, presented an elaborate report in which the appointment of a standing committee was recommended. The report was accepted and the recommendation adopted.

The Committee on Nominations presented the following report: *For President*, Dr. J. J. Woodward, U. S. A. *For Vice-Presidents*, Dr. P. O. Hooper, Ark.; L. Conner, Mich.; Eugene Gressom, North Carolina; and Hunter McGuire, Virginia. *Secretary*, Dr. Wm. B. Atkinson, Penn. *Treasurer*, Dr. R. J. Dunglison, Penn. *Librarian*, Dr. Wm. Lee, Washington, D. C. *To fill vacancies in Judicial Council*, Drs. S. N. Benham, Penn.; J. M. Toner, Washington; D. A. Linthecum, Ark.; William Brodie, Mich.; H. D. Holton, Vermont; A. B. Sloan, Missouri; and R. B. Cole, Cal.

St. Paul, Minn., was selected as the place for the next meeting; and Dr. Stone was appointed chairman of the Local Committee of Arrangements.

Dr. Billings, U. S. A., moved the adoption of the report of the committee; and paid a high compliment to Dr. Woodward, the nominee for President, and thanked the committee, in behalf of the Medical Staff of the Army, for the high compliment paid it in the selection of one of its most honoured members for the highest position in the gift of the Association.

The report of the committee was unanimously adopted.

The next order of business was the further consideration of the amendment to the Code of Ethics. Dr. N. S. Davis, of Chicago, made an able and elaborate argument in reply to Dr. Dunster and in favour of the amendment, and Drs. Martin of Mass., and Dunster, of Mich., spoke against it. Dr. Marcy, of Mass., moved to lay the amendment on the table, defeated; and the further consideration of the amendment was postponed until Friday.

The next business was the consideration of the following amendment to By-laws, offered by Dr. J. M. Keller, of Arkansas:—

"In the election of officers and appointment of committees by this Association and its President, they shall be confined to members and delegates present at the meeting, except in the Committees of Arrangements, Climatology, and Credentials." The amendment was adopted.

Section I. (*Practice of Medicine*). Dr. Whittaker, of Cincinnati, read a paper on the "treatment of diphtheria," and advanced the view that diphtheria was first a local and afterwards a general disease, and that it is only when the epithelial barrier is broken down that the blood and the body become infected. He contended that, although he could not kill the germs of the disease in the throat, he could so condense its mucous membrane as to make it a dam to the influx of disease, and to this end he recommended the persulphate of iron in full strength, applied well up behind the velum palati.

Dr. I. E. Atkinson, of Baltimore, read an exceedingly valuable and interesting paper on the "production of albuminuria by use of iodide of potassium in syphilitic disease," and Dr. Henry A. Martin, of Boston, a paper on "variola vaccinæ and variola equinæ in Massachusetts."

Section II. (*Obstetrics and Diseases of Women.*) Dr. Jos. Tabor Johnson, of Washington, read a paper on the "diagnosis of pregnancy in early months," and Dr. Mundé, of New York, exhibited a curette for removal of adherent placenta after abortion.

Section III. (*Surgery.*) Dr. Charles A. Leale, of New York, presented a paper on "facial carbuncle, and its treatment," in which he recommended free incision and the thorough application of pure nitric acid.

Section IV. (*State Medicine.*) No meeting.

Section V. (*Ophthalmology, Otology, and Laryngology.*) The afternoon was occupied by a general discussion of the subject of astigmatism.

Section VI. (*Diseases of Children.*) Dr. Clarence J. Blake, of Boston, presented a paper on "middle ear disease in children in the course of the acute exanthemata." Dr. A. Jacobi, of New York, Chairman of the Section then delivered his address.

Fourth Day. General Meeting. The President announced the following as the "Committee on Clinical Observations and Records," Drs. N. S. Davis, of Chicago; J. M. Toner, of Washington; H. O. Marcy, of Boston; W. H. Geddings, of Aiken; and S. M. Bemiss, of New Orleans.

The Association resumed the consideration of the amendment to the Code of Ethics, and Dr. J. S. Billings, U. S. A., offered the follow ing substitute:—

"It is not in accord with the interest of the public or the honour of the profession that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be especially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine." The previous question was moved, and the substitute was adopted.

The Committee on Nominations presented the following additional report:—

Section on Practice of Medicine—Chairman, Dr. J. A. Octerlony, Kentucky.

Section on Surgery and Anatomy—Chairman, Dr. J. C. Hughes, Iowa.

Section on Obstetrics—Chairman, Dr. H. O. Marcy, Massachusetts.

Section on Medical Jurisprudence and State Medicine—Chairman, A. L. Gihon, Washington, D. C.

Ophthalmology, Otology, and Laryngology—Chairman, Dr. D. B. St. John Roosa, New York.

Diseases of Children—Chairman, Dr. S. C. Busey, of Washington.

Dentistry—Chairman, Dr. D. H. Goodwillie, of New York.

On motion of Dr. Grissom, of N. C., a honorarium of $1000 was voted to the Permanent Secretary.

Dr. Goodwillie, of New York, offered an amendment to the Constitution, enabling permanent members to vote. Laid over for one year.

Dr. D. S. Reynolds delivered the address on Ophthalmology, etc.

The report of the Treasurer showed a balance of $2,208.40.

The report of the Committee on Publication was presented.

The Librarian reported that 273 titles had been added to the library during the year, and asked for an appropriation of $200 for current expenses, and that an appropriation of $50 be made in aid of the publication of the index medicus. Accepted, and appropriations passed.

The Convention unanimously adopted the following:—

Resolved, That the thanks of this Association are hereby tendered to the Committee of Arrangements of this Association for the faithful attention they have given to their duties and requirements; to the medical profession and citizens of Richmond for their hospitality and endeavours to make the time spent by us while here pleasant and agreeable; to Drs. McCaw and McGuire for the elegant special entertainment given by them at the Westmoreland Club; to Mr. McClure, Superintendent of the Telephone Company, for special facilities given the Committee of Arrangements and the Association; to Vice-President Parsons, of the Richmond and Allegheny Railroad, for his kind invitation for a free ride on his road to show us the interior of the State of Virginia; to Mr. Powell, manager of the Richmond Theatre; to the managers of the Mozart Association, and all others who have contributed to our pleasure and comfort; to the press, and especially their reporters, in giving such a full *résumé* of the proceedings in the daily papers; to the railroad companies generally who have so liberally reduced the rates of transportation for our benefit and any other modes of conveyance that have so contributed; to Mr. Valentine for his kind invitation to his studio.

Be it Especially Resolved, That our thanks are particularly due to the ladies of Richmond for attention and kind interest in making our sojourn so very pleasant and agreeable.

The Association then adjourned to meet at St. Paul on the first Tuesday in June, 1882.

The Association was entertained on Tuesday evening by Dr. and Mrs. McCaw and Dr. and Mrs. Hunter McGuire at a very handsome reception at the Westmoreland Club; on Wednesday evening by an operatic performance (The

Doctor of Alcantara), tendered by the physicians of Richmond; on Thursday evening by the citizens of Richmond at a promenade concert at the Richmond Theatre; and on Friday afternoon by an excursion along the valley of the James River, by the Richmond and Allegheny Railroad Company.

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The American Surgical Association.—The American Surgical Association met at Richmond, May 5th, at the Hall of the House of Delegates. Dr. S. D. Gross, of Philadelphia, presiding, and J. R. Weist, of Indiana, acted as Secretary.

At the request of the President, Dr. Packard, of Philadelphia, read the proposed new Constitution and By-Laws. On motion of Dr. Davis, the Constitution and By-Laws, as read, were unanimously adopted. Under this Constitution, surgeons known as "specialists" are allowed to become members of the Association. Under the old Constitution, that class of surgeons were excluded.

Drs. Marcy and Martin, of Boston, and Watson, of Jersey City, were recommended for membership.

Dr. Packard, the Treasurer, reported that he had received $925 from members, which, with the interest ($9.25), was deposited to the credit of the Association.

An amendment to the Constitution was adopted, to the effect that all nominations for membership shall lie over until the next regular session.

The Oriental Hotel, Coney Island, New York, was selected as the place for the next annual meeting. The 13th, 14th, and 15th of September was selected as the time.

The Association then adjourned until the above time and place.

The following is the list of officers of the society:—

Samuel D. Gross, M.D., President; Vice-Presidents, Drs. L. A. Dugas, James R. Wood; J. R. Weist, Recording Secretary; W. D. Briggs, Cor. Secretary; John H. Packard, Treasurer.

Council—Drs. Moses Gunn, John T. Hodgen, Hunter McGuire, J. C. Hutchison, Samuel D. Gross, J. R. Weist, and R. A. Kinloch.

—

American Medical College Association.—This body convened at Richmond on May 2, Dr. S. D. Gross, of Philadelphia, President, in the chair. Owing to the absence of a quorum, the Association adjourned from time to time until May 4, when a quorum was finally secured.

On motion of Dr. Bodine, of Louisville, the regular order of business was suspended to enter upon the election of officers. Dr. Gross stated that he would under no circumstances accept a re-election. The following officers were then elected:—

President, Professor J. M. Bodine, of the Medical Department of the University of Louisville, Ky.; Vice-President, Professor W. T. Briggs, of Nashville, Tenn.; Secretary and Treasurer, Professor Leartus Conner, of Detroit, Michigan.

Secretary Conner's report was then presented and received. It shows an increase of two in the active membership of the Association since the last annual meeting. From the reports of the several colleges made to the Secretary, it appears that these institutions had conformed more universally and completely with the requirements of the Association than heretofore, and that everything pertaining to their connection with the body was entirely satisfactory.

The report of the Committee on Medical Colleges showed that sixty-four catalogues of colleges had been examined, and that only sixteen of them had failed to come up to the Association's requirements in the matter of graduation. It

also appeared that twenty-two of the colleges had surpassed these requirements in one or more of the three following particulars: First, matriculation examinations; second, nine months' regular attendance; third, the three regular terms required.

After the transaction of some unimportant business, the Association adjourned until 5 P. M.

Upon the assembling of the Association at half-past five o'clock, it was found there was no quorum present. After waiting some time, and a quorum still being needed, the body adjourned, subject to the call of the President.

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Health of New York.—The city's sanitary condition is far from satisfactory, and the mortality is constantly increasing. During the first four months of 1880 there were 9266 deaths. This year, during the same period, there were 12,420 deaths, and the number for the week ending May 14th was 822. Typhus fever still prevails, although not to so alarming an extent as during the first month of the endemic. This fact may be fairly attributed to the energetic and efficient measures for disinfection and isolation adopted by the health board. During the fourth week of the fever's prevalence, ending April 16, there were 68; in the fifth week, only 4; in the sixth week, 17; and in the seventh week (ending May 1st), 29 cases reported. On May 10th there were 63 cases of typhus, and 156 of variola, at the Riverside Hospital. The Shiloh lodging-house, in which the fever originated, will probably soon be vacated by order of the Health Department. The type of the fever is still mild.

Diphtheria has decreased slightly during April, but measles, scarlet fever, and smallpox have markedly increased, the number of cases of variola being double that for March, and four times that for February. Several cases of variola have been imported by European emigrant steamers, and some cases have been discovered in Brooklyn and Jersey City. There is no truth in the sensational report that several cases of Asiatic cholera had been observed in the city. Some apprehensions having been excited by the apparently impure condition of the Croton water, the Board of Health has promulgated a report to the effect that no injury can result from its use, as it contains no harmful ingredients. The supply of water is, however, inadequate to the increasing demand, caused by the advent of summer, which was announced by the occurrence, on May 10, 11, and 12, of about thirty cases of insolation, several of which were fatal. No progress whatever has been made by the Legislature with reference to the passage of a street-cleaning bill since the last issue of the MEDICAL NEWS AND ABSTRACT. Conference committees were appointed, by the Senate and the Assembly, for the purpose of framing a bill which would be acceptable to their respective houses; but, having failed to effect a compromise, were discharged. New conference committees will now be appointed. The grand jury has indicted the members of the police board for failure to properly clean the streets. The trial before the Mayor of these officials for the same offence has just been completed.

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Bellevue Hospital.—Important improvements are about to be undertaken at Bellevue Hospital which will materially alter the appearance of its grounds. Mr. Marquand, a philanthropic capitalist, is about to present the hospital with a beautifully finished and appointed pavilion, in token of his appreciation of the care and attention bestowed upon his brother, who has been a recent inmate of the institution. The dimensions of the pavilion, which will be erected at the corner of Twenty-sixth Street and First Avenue, within the hospital inclosure, will be 120 by 130 feet, and the estimated expense of its construction about $20,000. It will be

chiefly devoted to the treatment of women and children, but four separate rooms will be fitted up, in a remote portion of the building, for the exclusive use of ovariotomy cases. The new building will consist of red brick and blue stone. The interior, which will be planned in accordance with suggestions from some of the visiting physicians, will be finished in rosewood. The floors will consist of tiles. The bath-rooms and closets will be of the most approved pattern. The unsightly stone wall, now inclosing the grounds upon the corner to be occupied by the new pavilion, will be replaced by an iron railing.

The Commissioners of Charities and Correction are now having erected another new pavilion, at the water's edge, for the treatment of erysipelas cases. Its dimensions will be 90 by 36 feet, and its cost $6000. Its fire-proof walls and partitions will consist of two layers of corrugated sheet-iron, the interval between which will be filled with plaster-of-Paris. This pavilion will accommodate twenty-four patients. A median partition will separate it into male and female departments, which will be thoroughly ventilated and provided with all modern conveniences. The new building will be ready for occupation on June 15th.

A small temporary reception hospital has been constructed at Bellevue Hospital for the detention and isolation of typhus fever cases, presenting themselves at the examining office, until their removal to the typhus pavilions on Blackwell's Island. It is built upon a scow which is anchored at a certain distance from shore. It is a one-storied building, and has separate apartments for males and females. Nurses, provided by the Board of Health, are in attendance, and the hospital steamer calls twice a day to remove patients to Blackwell's Island. The hospital is perfectly ventilated and provided with every convenience. The plan of a floating hospital was adopted in order to prevent the communication of typhus fever to the inmates of Bellevue Hospital.

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Prosecution of Unqualified Practitioners.—The Medical Society of the County of New York has begun active legal proceedings against illegally registered and unqualified medical practitioners by the arrest of two persons, who are accused of practising medicine without physicians' licenses. The censors of the society have ample evidence against a number of illegally registered practitioners, and propose to prosecute them as soon as the present cases shall have been disposed of.

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The Street Cleaning Agitation in New York.—At the regular meeting of the Medical Society of the County of New York, held on April 25, 1881, and at that of the Medico-Legal Society, on May 4, 1881, resolutions expressing the sympathy of the respective societies with the citizens' street cleaning bill were unanimously passed, and the presidents and secretaries of the societies were empowered to endorse the resolutions, and to present them to the President of the Senate and the Speaker of the Assembly.

The Council of the New York Academy of Medicine adopted, on April 26, the following resolution: "*Resolved*, That the members of this Council, knowing the filthy streets to be an active cause of disease, and that those of the city of New York are in a disgracefully dirty condition, respectfully urge upon the Legislature of the State of New York, as an efficient means of relief, the passage of the bill in reference to street cleaning known as the 'Citizens' Bill,' now before the Conference Committees."

—

New York Stenches.—The Committee of the State Board of Health on the stench nuisances at Hunter's Point, Brooklyn, having reported that the complaints in regard to the noisome odours were well founded, and having indicated

as the source of the offensive emanations the various factories mentioned in the April No. of THE MEDICAL NEWS AND ABSTRACT, the State Board forwarded an abstract of the report to Governor Cornell. A proclamation was immediately made by the Governor, directing the owners of all the factories designated as sources of offensive effluvia to take measures for the abatement or prevention of the latter before June 1, 1881. In the event of failure on the part of the factory proprietors to comply with this regulation, the district attorneys of Kings and Queens Counties will be directed by the Governor to bring action against the offenders. Authority for this action is furnished by a law passed in 1880 (8th sec. of the 322d chapter of Laws of 1880).

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The Visiting Staff of Bellevue Hospital.—Dr. T. T. Sabine has resigned his position as visiting surgeon to Bellevue Hospital, and Dr. Chas. McBurney has been appointed his successor.

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A Night Medical Service in Brooklyn.—Governor Cornell has signed the bill for the establishment of a night medical service in Brooklyn.

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College of Physicians and Surgeons, New York.—At the annual commencement of the medical department of Columbia College, held on May 13, 120 graduates received their diplomas. A social meeting of the alumni of the college was held in the evening at Delmonico's.

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Meetings of State Medical Societies:—

Connecticut State Medical Society meets at Hartford, June 22.

Massachusetts Medical Society meets at Boston, June 7.

Michigan State Medical Society meets at Bay City, June 8.

New Hampshire Medical Society meets at Concord, June 21.

Ohio State Medical Society meets at Columbus, June 14.

Wisconsin State Medical Society meets at Milwaukee, June 7.

On the 7th and 8th of June the Massachusetts Society will celebrate their Centennial Anniversary with proper honours, and addresses will be delivered by Drs. Samuel A. Green and J. Collins Warren, of Boston.

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OBITUARY RECORD.—At Berlin, on the 21st of April, after a short illness, Dr. LUDWIG WALDENBURG, in the forty-third year of his age. Dr. Waldenburg was professor in the University of Berlin, physician to the Charité Hospital, and editor of the *Berliner Klinische Wochenschrift*. He devoted his attention chiefly to diseases of the respiratory organs, on which he has written a comprehensive treatise, and was the inventor of an apparatus for the inspiration of compressed air, which has been much used. Dr. Waldenburg exercised great influence throughout the medical profession in Germany in his position as the acknowledged editor of its most influential medical journal. The *Berliner Klinische Wochenschrift* was always well edited, contained valuable scientific matter, and had an useful influence on those social and political questions in which the medical profession is constantly called upon to pronounce an opinion, and to direct public opinion, and frequently to prepare the way for necessary legislation. His independent character and his discretion lent force to his advocacy, and gave great weight to his judgments.—*British Med. Journal*, April 23, 1881.

——— At New York, on April 30th, aged 58, SALVATORE CARO, M.D., a physician of recognized ability and very enviable reputation. Dr. Caro graduated at the University of Palermo, in 1848, and came to this country in 1852.

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